School of Built Environment

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A new stakeholder management framework for EPCM Projects: Analysis of approaches used by Australian and Chinese Project Managers in Africa.

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DECLARATION

I declare that I have stated clearly and fully in the thesis the extent of any collaboration with others. To the best of my knowledge and belief the thesis contains no material previously published by any other person except where due acknowledgement has been made.

Signed:

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August, 2015

ABSTRACT

Mineral resources and infrastructure projects are usually unique in complexity and size. Engineering, Procurement, and Construction Management (EPCM) is one sector that addresses the design and construction challenges of those infrastructures. Meanwhile, the management of stakeholders is key to project success. In recent times, Africa has become a destination for large EPCM projects firms. These companies are from around the world and for the most part, the West and China. Literature and media reveal that current stakeholder management processes in EPCM projects in Africa are characterised by two distinct management approaches. These management approaches can be broadly classified as Chinese and Western models. For the sake of this study, Australia represents the West. The Australia model is contractual in nature, while the Chinese model is characterised by informality (guanxi). Both approaches have their respective merits which contribute to project success.

A multi-method research approach is used to investigate how project managers (PMs) manage stakeholders in EPCM projects in Africa. The research is carried out in four phases. In phase one, the research employs existing literature to develop a contemporary understanding of stakeholders' management theory of stakeholder management. This results in the development of the Accustom stakeholder management theory. Participant observations are used in the second phase, while questionnaires are administered to stakeholders in phase three. The new stakeholder management framework is then developed in phase four using Independent Sample t-test to select the best methods from the Australian and Chinese approaches.

The research makes a unique and significant contribution to stakeholder management theory by expanding the current theory and shedding new light on two culturally divergent approaches in project management.

Furthermore, the new stakeholder management framework highlights the practical approach how the PMs can manage the different group of

stakeholders in EPCM projects in order to enhance their satisfaction. It does that by combining the best of two distinct stakeholder management approaches (Australian and Chinese). The framework aims to improve the practice of project management in EPCM projects.

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GLOSSARY OF TERMS

BEE Inc.	=	Bisagni Environmental Enterprise
CSP	=	Corporate Social Performance
CFP	=	Corporate Financial Performance
CSR	=	Corporate Social Responsibility
EIA	=	Environment Impact Assessment
EPCM	=	Engineering, Procurement, and Construction Management
IBM-SPSS	=	Software analytics
IFM	=	International Monetary Fund
LA	=	Local Authority
NGO	=	Non-governmental organisations
PM	=	Project Manager
PMBOK	=	Project Management Body of Knowledge
PgMP	=	Program Management Professional
PMP	=	Project Management Professional
PMs	=	Project Managers
PPE	=	Personal Protection Equipment
SD	=	Sustainable Development
SRI	=	Stanford Research Institute
SSL	=	Stakeholders Satisfaction Level
UN	=	United Nation

CONFERENCES ATTENDED

Africa Downunder conference, Perth Australian Australia 2011

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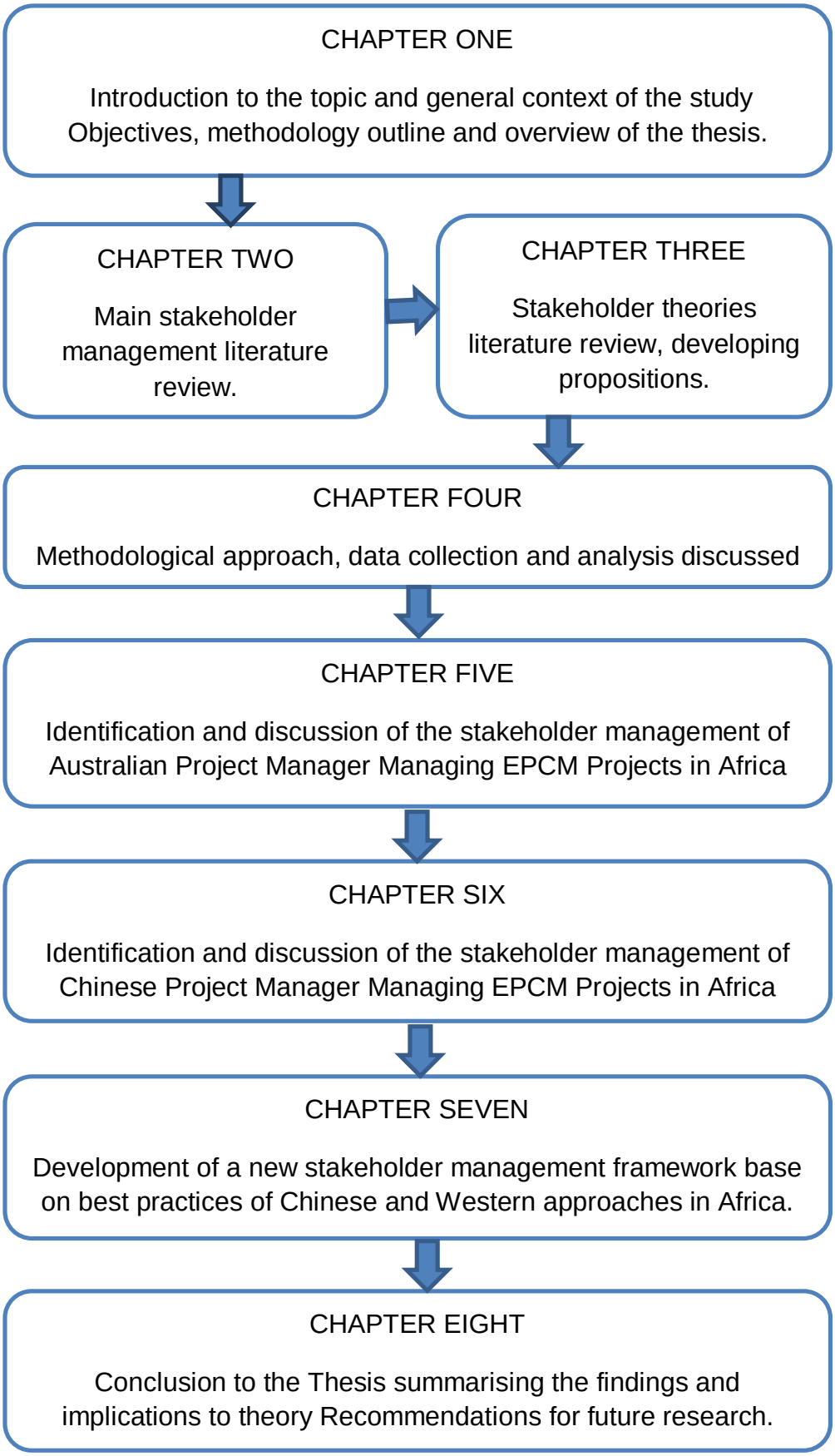


Chapter 1

Introduction

Exploitation of mineral resources involving the delivery of infrastructure projects can potentially affect the economic growth of a nation for many years, sometimes for generations to come. Mineral resources and infrastructure projects are typically unique in complexity and size. Consequently, Engineering, Procurement and Construction Management (EPCM) is one sector that addresses the design and construction challenges of these infrastructures. Some scholars define the EPCM sector as a critical component of infrastructure procurement worldwide (Walker et al., 2008); whilst others see it as a form of contractual arrangement for mega projects (Hartman, 2003; Tuomela and Puhto, 2001). For the purpose of this study, EPCM is defined as a sector providing services to the minerals, resources, and infrastructure projects.

Many African countries are on an accelerated treadmill in terms of resource exploration and infrastructure development. Recently, these countries have become attractive to many foreign EPCM projects companies, a significant number of which are from China and Australia (Chuhan-Pole et al., 2013). Evidence shows that firms from both countries are heavily engaged in minerals, resources, infrastructure development and market deals in Africa. According to The Economist (2013), Africa is now a prime driver of global economics due to its richness in minerals and resources. The African Economist (2014) reports that since 2003, Africa has been regarded as the world's fastest-growing continent at a rate of 4.8% a year. Foreign direct investment in EPCM projects accounts for most of this. A World Bank report (2014) states that close to $43 billion was invested in EPCM projects in Africa in 2013 alone.

Managing EPCM projects, which are typically large and complex, requires effective planning development, and delivery of projects, as well as the delicate management of various stakeholders (PMBOK, 2008; Walker et al., 2008). It is usually a project manager's task to develop the management

strategy of EPCM projects. However, it has been reported that during the delivery of many EPCM projects, PMs generally struggle to ensure that the expectations and needs of stakeholders are realised due to both the tangible and intangible aspects of the project (Walker et al., 2008).

Project management services are implemented differently in different parts of the world. Chen and Partington (2003) generally group these into two different management approaches: Chinese and Western. If Chen and Partington have looked at Chinese and Australian management approaches, how are these approaches implemented in Africa? The two approaches presented in two groups by Chen and Partington (2003) serve as base to investigate the management approaches in Africa. This study looks at Australian and Chinese PMs managing projects in Africa.

Chinese and Australian firms can be considered the major players in EPCM projects in Africa. Australia has recently committed to broadening and deepening its relations with Africa. This re-engagement of Australia with Africa, according to Lyons (2009:18), is mostly to compete with Asian countries, in particular China. He says that the Australian commitment to Africa is "mainly because of China and India's increased investment there – [Australia] couldn't afford to be left behind in this 'new scramble for Africa'." In addition, Australia capitalises on this engagement with continent "brand image" that is enhanced by the fact that it was not a colonial power (Smith, 2010). Indeed, despite the fact that Australia was not a colonial power in Africa, the management of stakeholders is not appreciated by local Africans as they do not see the difference between Australian firms and those which had colonial power in Africa (Goethals et al., 2009).

Firms from these countries – Australia and China – have different value systems, and project stakeholders in Africa have reacted to these differences (Satch, 2010; Goethals et al., 2009; and Brautigam, 2009). The overarching challenge therefore, is to establish or develop a framework from current stakeholder management practices from the two different approaches, and explore how project stakeholders in Africa can benefit from this. In order to address the difficulties identified above, there is a need to study the current

practices in managing stakeholders in EPCM projects in Africa, focusing on the different management approaches of Australian and Chinese ECPM companies operating in Africa.

Africa in Context

To build a picture of the context for this study, a basic understanding of Africa is necessary. Africa is the second-largest continent on the planet. At about 30.2 million square kilometres, including adjacent islands, Africa covers 6% of the Earth's total surface area and 20.4% of the total land area (Sayre 1999). As of 2013, an estimated 1.2 billion people live in Africa, which accounts for about 15% of the world's human population. Africa's population is the youngest among all the continents: 50% of Africans are 19 years old or younger (Harry, 2013). Africa is a continent of 54 countries, which are by no means homogeneous: they have different religions and different social and economic conditions. Despite these differences, African countries are characterised by some or all of the following conditions: poverty, a young and large labour force, unemployment and the potentiality to develop different industries (Muriithi and Crawford, 2003).

Geographically and demographically, Africa has two regions: North Africa and sub-Saharan Africa (United Nations, 2010 and Barakat, 1993). A World Bank (2014) report points out that by 2050, sub-Saharan Africa will have a gross domestic product (GDP) of $29 trillion. Infrastructure projects are expected to play a lead role in this. Thus, it has become important to understand the management of large EPCM projects in the region. This many outsiders perceive sub-Saharan Africa as being socially and culturally distinct from North Africa (Exploring Africa, 2013). Sub-Saharan Africa comprises traditional African cultures and societies, whereas North Africa is dominated by the Arab culture and language (Barakat, 1993).

The People’s Republic of China (PRC China) and Africa have both had a long history together. Trade relations between China and Africa date back as far as 202 BC and AD 220 (Snow, 1988). In recent years, China has intensified the relationship by providing infrastructure and soft loans to African countries to build their economies through trade and investment

without any political and economic conditions (‘Aning and Lecoutre, 2008). Satch (2010) argues that this Chinese approach has developed a sustainable and innovative relationship with Africa. According to the author, such an approach adds value to the African continent. Both Australia’s and China’s approaches are challenging and controversial, and this study examines how Australian and Chinese PMs manage stakeholders in EPCM projects in Africa.

Sub-Saharan Africa: Why Australia and China?

Sub-Saharan Africa

Sub-Saharan African trade and industry is on the fast track, growing more rapidly than ever. The GDP of Sub-Saharan Africa from 2000 through 2008 rose at a 4.9% annual rate, making the continent the third fastest-growing economic region in the world after emerging Asia and the Middle East (Roxburgh et al., 2010).

Sub-Saharan Africa’s growth acceleration is broad-based, resulting from more than the global commodity boom growth from 5% to 7%a year. Underpinning this growth were relatively high commodity prices, increased domestic demand (due especially to increased private investment in infrastructure and energy), and improved economic governance and management. Sub-Saharan Africa’s growth slowed from 5.7% in 2012 to a projected 4% in 2013, still almost twice the global average, but slightly lower than the average for developing countries. However, declines in mineral and resource prices between 2014 and 2015 have reduced the growth of sub-Saharan Africa by almost 1%. It is expected to bounce back by 0.3% in 2016 (Vollgraaff, 2015 and Stevis, 2015).

GDP growth is projected to accelerate to 4.7% in 2014 and 5% in 2015 on the back of relatively high commodity prices and increasing domestic demand. An expected firmer global recovery in 2014, bolstered by robust growth in industrial production in emerging and developing countries led by China, should also stimulate growth in Africa through increased trade, investment, and capital flows Economic report on Africa (2014).

Australia

Australian business is very engaged in Africa. In 2008, the Australian government instituted a policy of broadening and deepening its engagement with African countries on the basis of shared interests and challenges. Since then, Australia's relationships in Africa have progressed considerably. The political, diplomatic, commercial, defence, as well as other ties between Australia and many sub-Sahara African countries have increased substantially. In particular, Australian investment in sub-Saharan Africa is thriving, predominantly in the resources sector.

According to Ann Harrap, the Australian High Commissioner in South Africa (2014:1), there are now at least 230 Australian companies with approximately 650 projects in mining exploration, extraction and processing, spread across 42 countries in Africa. She also added that Australian investment in sub-Saharan Africa is well over US$ 50 billion currently.

China

According to the *Financial Times*, there are an estimated 800 Chinese corporations doing business in Africa, most of which are private companies investing in the infrastructure, energy, and banking sectors. Responsible Business in Africa (2009) reports that the World Bank estimates that China's commitments to infrastructure project finance in Africa rose from less than US$1 billion per year in 2001–2003 to around US$ 1. 5 billion per year in 2004–2005, and reached at least US$ 7 billion in 2006. As of the end of 2008, the number of Chinese companies that had established branches in Africa was estimated to be more than 2000, many of these in the EPCM sector.

Roxburgh et al. (2010) report that China has emerged as a major driver of growth in the African resource sector. China boosted its purchases of Africa's oil, from 1% of Africa's total petroleum exports in 1995 to 13% in 2008. Thus, China was the single largest contributor to Africa's oil export growth during this period. Measured by volume, this accounted for 37% of Africa's total petroleum exports between 1995 and 2008. If current trends continue, China

could overtake Europe as Africa's second-largest oil export market by 2020. Notably, in the consumer market, China's Industrial and Commercial Bank spent $ 5.5 billion in 2007 to acquire a 20% stake in Standard Bank [South Africa] – the largest African banking group by assets and earnings. The deal was hailed at the time as a symbolically significant demonstration of China's growing business commitment to the continent (Brautigam, 2009; Roxburgh et al., 2010).

1.1 Background

The initial idea for this research project arose from a section of a general report which claims that projects in Africa managed by PMs from Australia and Europe are generally not delivered satisfactorily to stakeholders, while those managed by the Chinese seem to satisfy some stakeholders (see Satch, 2010; Goethals et al., 2009; and Brautigam, 2009). This difference is due to multiple reasons, including: management changes, technical complexities, unrealistic project plans, staffing problems, main concern shifts, sinking team spirit, insufficient front-end planning, unco-operative support groups, and unqualified project personnel (Assaf et al., 2005). The majority of these problems appears to be the stakeholder management style of the respective PMs. As an example, it has been identified that Australian PMs in many cases "condemn", complain about, and criticise stakeholders when managing projects in foreign countries. Australian firms have generally been perceived as coming to developing countries with a domineering spirit (Michailova and Jormanainen, 2011; Brautigam, 2009). By contrast, Chinese firms operate with a more self-effacing attitude (Brautigam, 2009). Australian PMs pay greater attention to the task and contracts. Chen and Partington (2003) describe this as establishing contractual relationships. Chinese PMs pay greater attention to informal contractual management. According to Chen and Partington (2003), this method focuses on establishing informal relationships. Both of these approaches – establishing formal or informal relationships with project stakeholders in Africa – have had context-specific

strengths and limitations. Apparently, the strengths of both approaches can be combined into one novel model that can reduce the limitations of the two approaches.

This research explores how Chinese and Australian PMs manage stakeholders in EPCM projects in Africa. This is with a view to develop a more progressive stakeholder management framework in EPCM projects that will contribute to stakeholder management knowledge.

1.2 Corporate stakeholder theory

Bourne and Walker (2006:5) define stakeholders as "individuals or groups who have an interest, or some aspect of rights or ownership of the project, and who can contribute to, or be impacted by, either the work or the outcomes of the project". A project which does not meet the expectations of its stakeholders is not likely to be regarded as successful, even if it remains within the original time, budget and scope. Most researchers have referred to this understanding as stakeholder management theory: a body of knowledge that is focused on developing a project's strategic aims by identifying stakeholders. These have amplified the significance of stakeholder management in the successful management of an EPCM project. The stakeholder management theory is often used as a framework for conceptualising and understanding issues concerning corporate ethical responsibilities (Stoney and Winstanley, 2001; Schwartz and Carroll, 2008). However, since Freeman's (1984) landmark book, *Strategic Management: A Stakeholder Approach*, stakeholder management theory has been used in different ways in different studies. The majority of research regarding stakeholder management theory, as defined by Donaldson and Preston (1995), is either normative, instrumental, or descriptive. Normative stakeholder management theory examines how managers or stakeholders should act and should view the purpose of an organisation, based on some ethical principles. Instrumental stakeholder management theory is about how managers should act if they want to work for their own interests. Descriptive

stakeholder management theory focuses on how managers and stakeholders actually behave, and how they view their actions and roles. An assumption regarding Australian PMs is that they tend to prioritise their own interests over the interests of their organisations, which is usually to maximise profit or to maximise shareholder value. This means that if managers treat stakeholders in line with the appropriate stakeholder management concept, the organisation can be expected to be more successful in the long run (Fontaine et al., 2006).

Bourne and Walker (2006) break down the stakeholder management theory they have used for their study into social science stakeholder theory, instrumental stakeholder theory and convergent stakeholder theory. Recently, these theories were identified as an essential tool for a project's value proposition in project construction management. Walker et al. (2008: 70) argue that PMs "have to discern how to connect into the organisational grid and how to identify tipping-point key stakeholders and their value propositions to deliver successful projects".

Many researchers have studied the moral or philosophical guidelines linked to the management of corporations and the organisational consequences of taking management of stakeholders into account. An appropriate way to do this is by examining the connections between the practice of stakeholder management and the achievement of various corporate governance goals (see Freeman, 1984; Freeman, 2004; Donaldson and Preston,1995; Bosher et al., 2007; Cole, 2005; El-Gohary et al., 2006; Newcombe, 2003; Olander and Landin, 2005; Bourne and Walker, 2006). It is evident that there is a clear knowledge gap in understanding how managers deal with stakeholders and how they represent their interests.

This current research starts by examining extant literature such that it could offer a fresh perspective, and a comprehensive review of stakeholder theories, based on the literature. More importantly, the study explores how Chinese and Australian PMs manage stakeholders and examines the management styles they adopt to maintain their interests in EPCM projects in Sub-Saharan Africa. The overarching focus of the study is to develop a new

stakeholder management framework from the findings of both Chinese and Australian best-practice approaches.

1.3 Research Rationale

A critical review of the literature reveals the importance of stakeholder management as a means of improving project success (Walker et al., 2008). Extant research findings in this area have not sufficiently described mechanisms through which PMs can implement seamless approaches to stakeholders' management of the EPCM projects operating in different cultural environments. The impact of this is better imagined than experienced: it may result in projects being rendered vulnerable to the risk of failure.

EPCM projects are characterised by a range of issues of political, social, historical, personal, contextual, and technical nature in Africa. Irrespective of the approaches used, Australian and Chinese PMs have often struggled to take projects from the scoping study through to the operational stage and to be adaptable to both technical study and design, and construction environments. This research not only investigate the theoretical link between stakeholder identification and stakeholder management, but to also help PMs to adapt to different environments when managing stakeholders in EPCM projects.

1.4 Aim and Objectives:

Research Aim

The aim of this research is to develop a framework that improves stakeholder management in EPCM projects by combining the appropriate practices used by Australian and Chinese PMs in Sub-Saharan Africa.

In other to achieve this study aim, the objectives are set out as follows:

1. to review the current body of knowledge and develop a contemporary understanding of stakeholders management theory;
2. to explore and identify the practices of Australian and Chinese PMs' approaches to stakeholder management in EPCM projects in Africa;
3. to bring together lessons learned and appropriate practices from Australian and Chinese approaches into a conceptual framework for stakeholder management suitable for EPCM projects in Africa.

1.5 Research Methods

The research project first critically analysed stakeholder theory in the literature related to this field and then developed a contemporary understanding of the relevant to the EPCM sector. Following this, a multi-method research strategy involving questionnaires and field observations to facilitate data collection was used to gather current practices about the involvement and management of stakeholders in EPCM in Africa. A multi-method research involves the application of two or more sources of data or research methods to the investigation of a research question or to different but highly-linked research questions. Such research is also frequently referred to as mixed methodology (Bryman et al., 2008). The multi-method study aims to reasonably understand the complete range of stakeholders and the social relationship PMs have with them. The fulfilment of objectives 2 above requires an observation on how PMs manage and conduct project stakeholders meetings. The findings on the management approaches are documented in the study notes daily.

Data collection took place in Australian and Chinese leading EPCM project organisations in Africa. Questionnaires were conducted in 10 projects in Africa to ensure that project stakeholders within a broad range of the stakeholders' ecology were embedded in project contexts.

The final objective is fulfilled by using independent Sample t-test to select the best practices of both Australian and Chinese approaches to develop the

new framework for stakeholder management approach to be implemented in Africa.

Instead of focusing on individual stakeholders and their impact, this study looks at the whole structure of stakeholders' ecology in EPCM projects. Stakeholders' ecology refers to the complete range of stakeholders: upstream stakeholders, downstream supply chain, project sponsor or champion, and external stakeholders (Walker, 2003). The research project can only be fulfilled by focusing practically on a small sample of stakeholders in the stakeholders' ecology, including project owners, project sponsors, project team members, PMs, suppliers, government and communities. Depth and detail are therefore the focus, rather than the breadth and quantification.

1.6 Research Scope and Limitations

The research objectives for this study reflect a predisposition to how researchers can contribute to the delivery of increased value in professional PMs managing project stakeholders in the EPCM projects industry in Africa.

Stakeholder management approaches in Africa change from the unpredictability idea of Western scientific knowledge to the complex social environment of Africa. It requires the precise formulation of the management model in plans that can be observed and tested, including the management approach, the management partaking, the frequency of communication, and the quality of communication. Stakeholder management methods appear appropriate for a certain type of research project. The type of studies are in line of identifying, grouping and prioritising of stakeholders. This has provoked a debate in those research projects which nature, approach, and intent are diametrically opposed to the formal management approach.
Academics classified management research as applied research. Therefore, this study is applied research; it is limited to how PMs manage stakeholders in the EPCM projects environment. Other stakeholders are not investigated.

The research argues that stakeholder satisfaction can be increased by combining the formal and informal management approach.
This study is narrow as it used only Australian companies to represent the West and the questionnaires were answered by respondents in only three African countries – Mali, Botswana and South Africa – and two companies managing projects in Africa in Perth.

1.7 Significance

The research objectives for this study illustrate how academics can contribute to the delivery of increased value of professional PMs. The research aims to increase stakeholders' importance within the EPCM projects industry. Delivering increased value requires consideration of how any particular research effort fits into existing research fields, as well as how it impacts the industry by fitting into existing organisations.

This research project is particularly relevant to the critical discussion surrounding descriptive stakeholder theory and PMs managing EPCM projects. Although much has been written on stakeholder management as a phenomenon, academic focus has often been on the stakeholder management process, the identification of methods, and the power interests of stakeholders. This study of how Australian and Chinese PMs manage stakeholders offers EPCM project management researchers a fresh perspective on the stakeholder management theory and a useful means of managing stakeholders in EPCM projects particularly when operating in a different environment. It is a unique contribution to the body of knowledge as it looks at how PMs from Australia and China manage stakeholders in EPCM projects in Africa and brought together lesson learned and appropriate practices that suitable in the context of EPCM projects in Africa. It contributes to the body of knowledge in at least two areas. The first contribution unpacks the relationship between stakeholder theory and project management in the EPCM field. The second contribution is the body of knowledge on

organisational management practice by incorporating Australian and Chinese management approaches in EPCM projects in the body of knowledge.

1.8 Thesis structure

This thesis has eight chapters. Chapter One (the current chapter) provides a synopsis of the study. It presents the EPCM projects, the interest of Australian and Chinese in Africa, background of the research, perspective of research, research objectives, and introduction to research methods, Research Scope and Limitations and significance of the research.

Chapter Two presents a review of extant literature regarding scholarly approaches to stakeholders' management. The chapter reviews the history of stakeholder involvement in construction projects in Africa, and explains the different theories around stakeholders' management approaches.

Chapter Three explores and attempts to develop a fresh understanding of stakeholder theories. This leads to the formulation of the hypothesis of the research project.

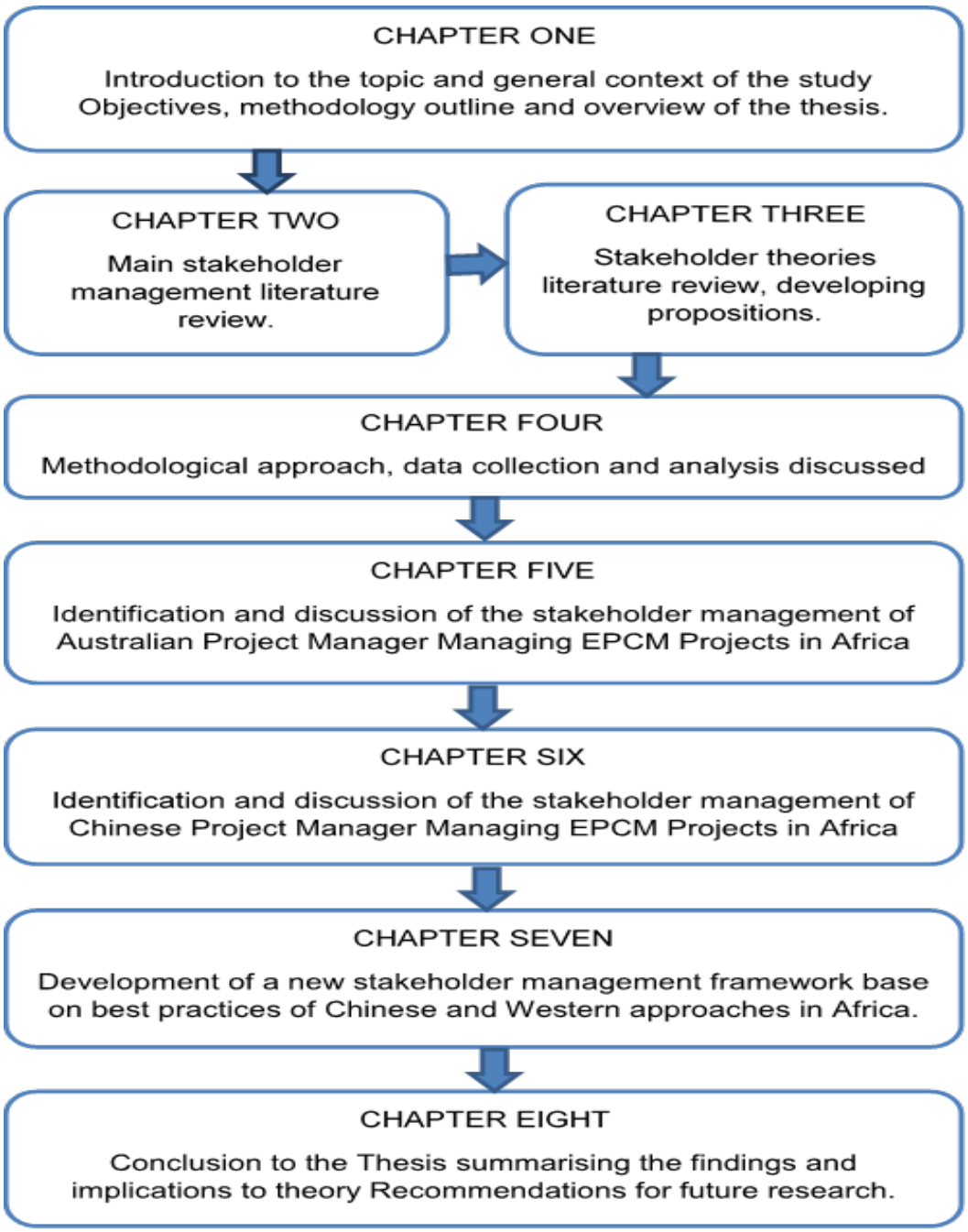
Chapter Four presents the overall research methodology of the research encompassing an understanding of the philosophy of research, and the research approach and strategies. Subsequently, the research design is explained, followed by the explanation of the data collection and data analysis.

Chapter Five presents the result of the field observation and quantitative analysis of Australian PMs managing EPCM projects in Africa.

Chapter Six presents the outcome of the field observation and quantitative analysis of Chinese PMs managing EPCM projects in Africa.

Chapter Seven discusses the development of a new stakeholder management framework within the context of EPCM sector in sub-Saharan Africa. This framework provides a platform for PMs to better improve their commitment to efficient stakeholder management processes.

Chapter Eight summarises the research findings in satisfying the research aim and objectives. The chapter also discusses the research contribution and further research arising from this research.



1.9 Summary

This chapter has provided an introduction to research focusing on stakeholder management in EPCM projects in Africa. The main premise of this research is the development of a new stakeholder management framework suitable for managing EPCM projects in Africa. This chapter has also outlined the research objectives and set down the research objectives. This chapter has also provided a brief description of the research methods employed in this research, the significance of the research, and an outline the structure of the thesis.

The current relevant literature gives special value to stakeholder management, but it does not clearly and sufficiently address the issue of how PMs can increased values in EPCM firms' by managing stakeholders accordingly. This research develops a new approach and has the ability to improve upon existing approaches.

The next chapter presents the stakeholder management literature and brings together the understanding of scholarly approaches to Australian and Chinese stakeholder management approaches.

Chapter 2

Managing stakeholders

2.1 Introduction

This chapter reviews scholarly definitions of stakeholders in order to establish the correct definition for the study. It also reviews the history of stakeholder involvement in construction projects. In particular, the section reviews literature that relates to extant approaches used by Australian and Chinese EPCM PMs and their performances.

The field of stakeholder management has evolved among construction scholars over the decades. Stakeholders appear to be more knowledgeable about project management than in the past (Friedman and Miles, 2006). Stakeholder management methods have not remained static over time: in the past, developing countries' EPCM projects were managed using common Australian and developed country project management practices. With the rise of China and its unique management processes, new and different approaches to management in EPCM projects have emerged (Chen et al., 2009).

A number of academics have studied stakeholder management from different perspectives and dimensions. These dimensions are the focus of the discussion in the next section. This is followed by descriptions of Australian and Chinese stakeholder management approaches, respectively. The differences between Australian and Chinese PMs' initiatives in managing stakeholders are highlighted. Issues like culture, philosophy, leadership and rewards are discussed.

2.2 Definitions of stakeholders

Stakeholder management is a prominent element of management practice. In recent years, the concept of stakeholder has achieved widespread attention among academics, the media, and managers. However, there are a range of different definitions of a stakeholder (see table 2.1). Hence, detailed distinctions and analyses need to be made. The definition of a stakeholder, the purpose and character of the organisation and the role of managers are often ambiguous and contested in literature and have changed over the years. Even Friedman, the "father of the stakeholder concept", changed his definition over time, defining stakeholder three times in three different books. In 1984, he defined stakeholders as "those groups without whose support the organisation would cease to exist" (Freeman, 1984:31). This definition is often credited to an internal memo report of the Stanford Research Institute (SRI) in 1963. In 2004, he offered another definition: stakeholders are "those groups who are vital to the survival and success of the organisation" (Freeman, 2004:46). This definition is entirely organisation-orientated, so academics still tend to prefer the 1984 version, where he defines stakeholders as "any group or individual who can affect or is affected by the achievement of organisation objectives". More recently, Freidman and Miles (2006) stated that this definition is more balanced and much broader than the definition of the SRI. The phrase "can affect or is affected by" seems to include individuals outside the firm who could be seen as stakeholders of an organisation, without the firm considering them to be such.

In one of his latest definitions, Freeman (2004:58) defines stakeholders as "those groups who are vital to the survival and the success of the corporation". To demonstrate the variations, in one of his latest publications, Freeman (2004) added a new principle which reflects a new trend in stakeholder theory. In this version, consideration of the perspective of the stakeholders themselves and their activities is also very important for the management of companies. He outlines "the principle of stakeholder recourse" which advocates that stakeholders may bring an action against the directors for failure to perform the required duty of care (Freeman, 2004).

Other writers have offered further variations to Freeman's definitions of stakeholders. Gibson (2000) defines a stakeholder as a person or a group of people who have a vast interest in the success of a project and the environment within which the project operates. Gardiner (2005) describes stakeholders as individuals, groups and organisations who are actively involved in the project, or whose interests may be positively or negatively affected as a result of the project. El-Gohary et al. (2006) suggest that stakeholders can be identified as individuals or organisations that either are affected by or affect the deliverables or outputs of a specific organisation. The majority of these definitions have been interpreted from the viewpoint of organisations. However, Bourne and Walker (2006) defined stakeholders as individuals or groups who have an interest, or any aspect of rights or ownership, in the project, and can contribute to, or be impacted by, either the work or the outcomes of the project. This definition seems more contextual in the construction project management field as it is defined in the project environment. For the purpose of this study, this is the definition that will be used.

Carnegie (1936) asserted that dealing with people is probably the biggest problem PMs face in managing EPCM projects. A very common way of differentiating the various kinds of stakeholders is to consider groups of people who have classifiable relationships with the organisation. Stakeholder groups are widely identified today and, with the effect of globalisation, it is very challenging for PMs to manage all of these stakeholders. These difficulties found in global management systems will be explained later under the management section.

Table 2.1 Different Definitions of stakeholder

Scholars	**Definition of stakeholder**
Freeman: 2 versions in (1984)	The first version was "any group or individual who can affect or is affected by the achievement of the organisation objectives"; the second was "those groups without wose support the organisation would cease to exist".

Freeman (2004)	Those groups who are vital to the survival and the success of the corporation.
Gibson (2000)	A person or a group of people who have a vested interest in the success of a project and the environment within which the project operates.
Gardiner (2005)	Individuals, groups and organisations who are actively involved in the project, or whose interests may be positively or negatively affected as a result of the project.
El-Gohary et al. (2006)	Individuals or organisations that either are affected by or affect the deliverables or outputs of a specific organisation.
Bourne and Walker (2006)	Individuals or groups who have an interest, or any aspect of rights or ownership, in the project, and can contribute to, or be impacted by, either the work or the outcomes of the project.

2.3 History of the stakeholder concept

Freeman and McVea (2001); Elias et al. (2002) offer an insightful evaluation of the history of the stakeholder concept. The “stakeholder” term first appeared in corporate planning literature in the 1960s with the classic book *Corporate Strategy* by Ansoff (1965). The term was immediately elaborated upon at the Stanford Research Institute (now SRI International) in the same decade. Slinger (1998) points out that from the start, the stakeholder approach grew out of management practice. SRI argued that managers needed to recognise the concerns of shareholders in order to develop objectives that they would support. Managers are required to actively explore their relationships with all stakeholders in order to develop long-term business success.

Freeman and McVea (2001) claim that the motivation behind stakeholder management was to develop a framework for managers in a business environment typified by turbulence and change. Traditional strategy frameworks were neither helping managers develop new strategic directions

nor helping them understand how to create new opportunities in the middle of so much change (Freeman and McVea, 2001).

Elias et al. (2002) summarised the development of the stakeholder concept in the form of a literature map (Figure 2.1). The first three levels of the map were developed by Freeman (1984). The map has been extended by incorporating the latest developments of stakeholder management.

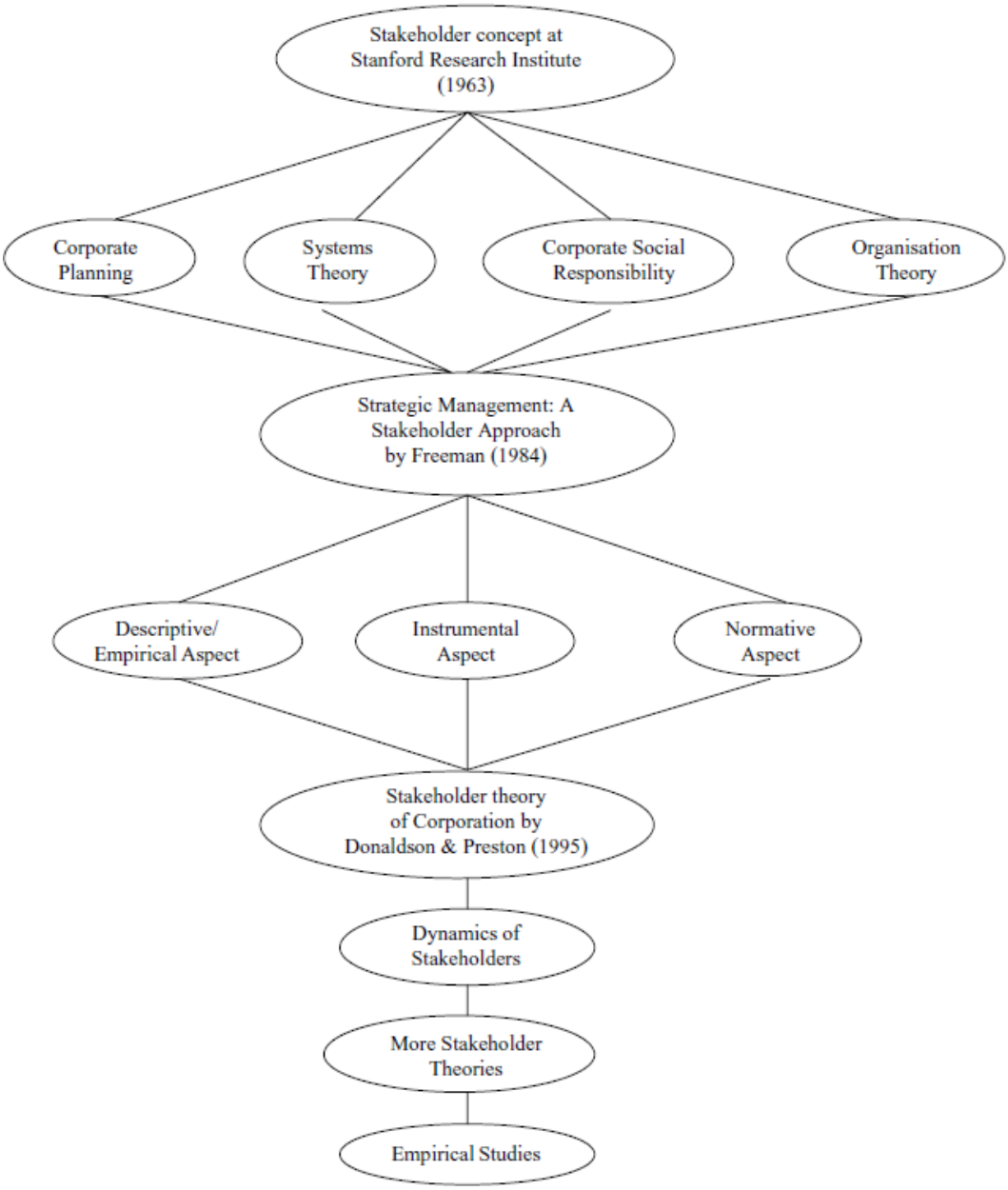


Figure 2.1 Stakeholder literature map, (source Elias et al., 2002)

The map starts by showing the original concept of stakeholder developed in 1963. The concept branch out into four different fields, namely, corporate

planning, systems theory, corporate social responsibility, and organisation theory. The next landmark was developed by Freeman in 1984. The theories were then categorised into three groups, namely descriptive, instrumental, and normative by Donaldson and Preston (1995). After Donaldson and Preston (1995), the stakeholder literature spread into different areas with the development of different theories. These groups of stakeholder theory have grown in the academic community to become one of the most common frameworks used for conceptualising and understanding issues concerning corporate ethical responsibilities (Stoney and Winstanley, 2001; Schwartz and Carroll, 2008).

2.3.1 Stakeholder involvement in construction projects

In the 1960s, the involvement of stakeholders was more passive. Stakeholders were focused heavily on the deliverables at the end of the project. If they did get involved at all, it was closer to the end of the project where there were fewer decisions for them to make. Stakeholders knew very little about the actual processes of project management and were very much results-oriented. Information provided by the PM was considered as the "gospel", never questioned, and the stakeholders had no way of validating whether or not this was the right information (Kertzner, 2012). The duties of PMs in the past were to deliver successful projects, with the success were measured in time, budget and scope, defined in PMBOOK (2008) as the triple constraints. The thinking behind the development of these triple constraints was reduced to the satisfaction of one group of stakeholders (upstream stakeholders).

Today, stakeholders appear to be much more knowledgeable about project management than in the past and their involvement is much more active. Academics have pointed out that for project to be successful, attention must be focused to the needs and expectations of a diverse range of stakeholders, failing to do that, the project will not be considered as successful even if the Project Manager is able to stay within the original time, budget, and scope

(Walker et al., 2008). Therefore, PMs' duties are more challenging and complex than in the past. It became important to understand how PMs deal with stakeholders and how they represent their interests. It also became very important for PMs to change their perspective from being simple technicians that single-mindedly delivered project outputs to being strategic professionals more fully involved with stakeholders (Bredillet et al., 2008).

The involvement of stakeholders early in the project helps PMs understand whether they are able to do business with them. This allows the development of a strategy for stakeholder management. When stakeholders take part in the project initiation, they help define the criteria for measuring project success, as the early involvement of stakeholders' helps PMs understand their expectations and needs. Usually a project constitutes four often overlapping major phases (Figure 2.2). They are initiation, design, delivery, and decommissioning, respectively.

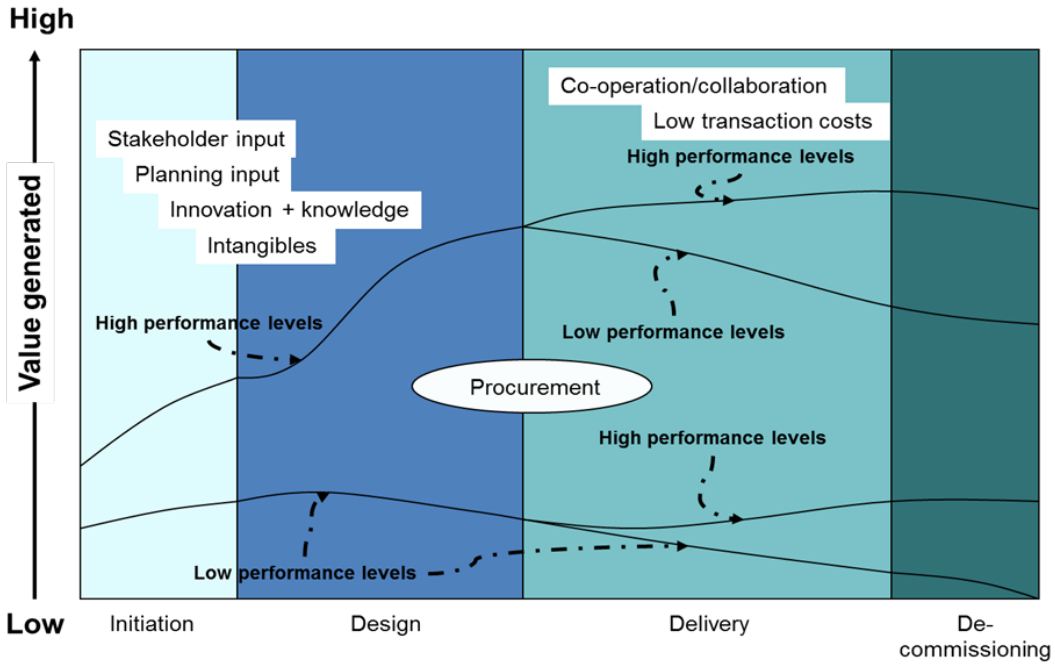


Figure 2.2 Project phases and performance Source: Walker et al., 2008:5

In the initiation phase, the PMs need to identify, clarify, and prioritise stakeholders along with identifying expected benefits, the strategic impetus for the project, and developing and challenging the business case for the

project (Walker et al., 2008). Stakeholders' input in this phase can potentially provide significant value. The need for effective and efficient interaction between stakeholders and the PM can be of crucial importance for service excellence. It helps the PM understand the level of satisfaction or delight of the stakeholders and it is also vital for PMs to know from the initial stage of the project that satisfaction and delight are different in meaning. Satisfaction is a judgment, whereas emotions, such as delight, are human effects resulting from judgments about satisfaction with a service (Oliver, 1997).

The design phase involves matching identified stakeholder needs with proposals to deliver the required value. The effectiveness and efficiency of interaction between stakeholders and PMs is very important in the design phase, particularly in respect of prioritising needs. The design phase is usually followed by a process where the successfully selected project team is mobilised safely and resources are procured to deliver the project, whilst respecting the process. This is where sub-optimal procurement choices can have a profound impact upon project delivery value (Walker et al., 2008).

The project delivery phase involves constructing the deliverables and controlling the project delivery process. This phase is where the actual product or service is developed and delivered to upstream stakeholders (upstream stakeholders are defined as paying customer and end users of the product/service (Walker et al., 2008). Stakeholder management and interaction is very important in this phase because it is here that project resources are secured.

The final phase is decommissioning. Often, a different set of additional stakeholders may be involved at this stage. The decommissioning is the careful and systematic disposal of the constructed physical asset. The de-commissioning of an operating facility is measured according to community and government satisfaction and delight. During decommissioning, local communities, governments, owners, and employees must be involved in the decision-making process. Their involvement contributes to successful decommissioning.

2.3.2 Stakeholder Grouping

There are different approaches to the identification and grouping of stakeholders (Karlsen, 2002; Elias et al., 2002; Tan et al., 2005; Young, 2006; Sutterfield et al., 2006; Bourne and Walker, 2006; Olander, 2006; Cleland, 1999; Jepsen and Eskerod, 2009; Walker et al., 2008; and Ackermann and Eden, 2011). Waddock et al. (2002) classify stakeholders in three major groups: 1) primary stakeholders, such as owners, employees, customers, and suppliers; 2) secondary stakeholders, including non-governmental organisations (NGOs)and activists, local communities, and governments; and 3) generalised institutional or social such as the emergence of "best of" rankings, global standards and principles, and reporting initiatives focusing on multiple bottom lines rather than the traditional financial bottom line alone. These classifications of stakeholders are simplified, and categorised in terms of similarities, differences, and correlations. It classifies and categorises to help PMs to practically manage the interests and needs of stakeholders. However, such classifications and categorisations are judgmental, as local communities and governments are not classified as primary stakeholders. Local communities and governments too have great interest in the project because of the potential impact on the life of the communities and their economic interests such as pollution, noise, and service excellence with the government. Therefore, researchers must not have a fixed viewpoint when identifying and managing stakeholders. Walker (2003) categorises stakeholders into four groups (Figure 2.3):

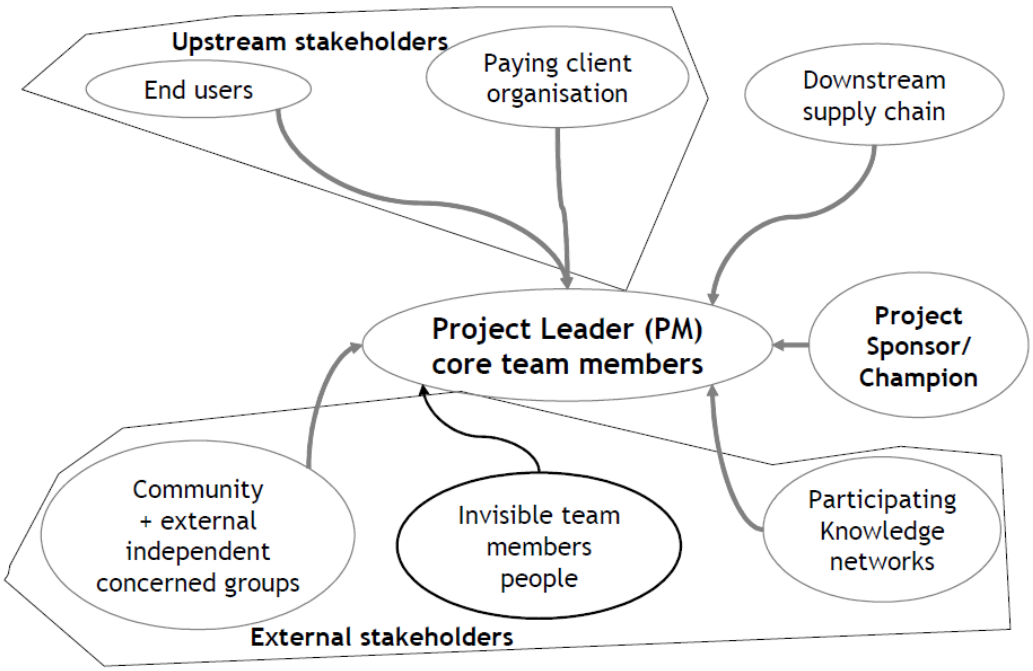


Figure 2.3 Stakeholder types Source: Adapted from Walker (2003:261).

1. Upstream stakeholders, comprising the paying customer and end users of the product/service
2. Downstream stakeholders, including suppliers and sub-contractors;
3. External stakeholders, including the general community and independent concerned individuals or groups who are impacted by the project and its outcomes; invisible stakeholders who engage with the project team in delivering the ultimate project benefit, but whose cooperation and support is vital for project success; and also the knowledge network that interacts with the project delivery team in a variety of ways
4. Highly visible project stakeholders group, comprising the project sponsor or champion as well as the project delivery team

PMs need to upgrade their knowledge networks and learn about stakeholders, when the project is undertaken to access insights and knowledge about work practices.

These stakeholder groups are widely accepted in EPCM industry as it gives guidelines to PMs to define the stakeholders involved in their projects.

These stakeholder groups are used as part of the stakeholder ecology in this research project. For the purpose of the project, upstream stakeholders are identified as project owners and operation managers. Downstream stakeholders are identified as contractors and suppliers. External stakeholders' are identified as the broader community. Friedman and Miles (2006) says that there is a clear relationship between definitions of what stakeholders are, and the identification of who stakeholders are. This encouraged him to develop the main groups of stakeholders to help managers. He short-lists stakeholder groups as follows:

- Customers
- Employees
- Local communities
- Suppliers and distributors
- Shareholders
- The media
- The public in general
- Business partners
- Future generations
- Past generations (founders of organisations)
- Academics
- Competitors
- NGOs or activists – considered individually
- Stakeholder representatives, such as trade unions or trade associations of suppliers or distributors
- Financiers other than stockholders (debt holders, bondholders, creditors)
- Competitors
- Government, regulators, policy makers

This list of stakeholders by Friedman and Miles (2006) is designed to help managers; however, it seems confusing, complex, and overlapping in EPCM projects. First of all, the public in general can be seen as all-encompassing

and so everybody is a stakeholder. Secondly, the past and future generations are not clearly defined. This does not fit in with EPCM project stakeholders, although it can fit in with private limited organisation. This list potentially includes everybody in the world, from the past to the future and therefore, PMs would not know how far to go when it comes to identifying stakeholders. The list of stakeholder groups provided by different academics can help PMs develop their project stakeholders list or help the identification of different groups of stakeholders.

The position of managers is perceived differently in Australian literature on stakeholder ecology. Some regard them as stakeholders, while others embrace them in the organisation's actions and responsibilities (Fontaine et al., 2006). A very interesting view of managers comes from Aoki (1984), who sees managers as referees between investors and employees. This view is very much how EPCM PMs see their role in projects. The two opinions of academics can be approached in terms of the two management approaches which are, according to Miles and Ballard (1997), contract arrangements (also seen as transactional arrangements), and informal management correspondingly to relational.

Clearly, stakeholders are not a product, liability, or service – they are living, breathing human beings. It is evident that PMs are involved with stakeholders and can play the role of referees between stakeholders as well. Stakeholders are the people and groups that PMs have to manage during the life cycle of the project. Walker et al. (2008: 70) argue that PMs have to know how to connect into the organisational grid and how to identify tipping-point key stakeholders and their value propositions to deliver successful projects.

Within the above stakeholder grouping, the author uses Walker's (2003) stakeholders groups as it seems widely accepted in the EPCM industry, and gives guidelines to PMs to define the stakeholders involved in their projects.

2.4 Culture and Management approach

The management approach depends largely on the culture of the organisation and its people. Cultures vary from country to country and within countries. Culture is “a reaction to changes”: “In the condition of our common life, different reactions and resulting situations have created different cultures, and consequently there are many different kinds of culture: The idea of culture describes our common inquiry but our conclusions are diverse, as our starting points were diverse” (Williams, 1985:285).

National culture shapes the behavioural patterns of managers (Tengblad, 2004). The widely referred study of Hofstede (1984) has been a source of inspiration for a number of comparative cross-culture studies (Boisotand Liang, 1992; Brewster et al., 1993; Doktor, 1990; Luthans et al., 1993; Stewart et al., 1994). In general, these studies have identified important differences in managerial behaviour. It is claimed that these differences to a large extent can be explained by cultural differences (Stewart, 1996). Doktor (1990), for instance, presented empirical data that Japanese and South Korean chief executives worked in a less fragmented way than their American counter parts. Boisotand Liang (1992) have also compared the work behaviour of six Chinese enterprise directors with those of Mintzberg. They found that the Chinese executives had much more frequent contact with superiors, that they spent considerably less time on desk work, and that they were more reluctant to delegate tasks (Tengblad, 2004).

The Chinese PM Management approach depends greatly on their culture and philosophy. Chen and Partington, 2003; Stawichi et al., 2007 argue that Chinese pay greater attention to maintaining personal relationships, what it is called in Chinese “guanxi”. Guanxi is a very subtle word, which cannot be simply replaced with "relationship", although they are similar to some extent. Relationships can be comparatively clearly defined, while guanxi can only be felt among people sharing the same culture or the same sense. In other words, guanxi can never be written into business contracts. An ideal guanxi is to make a psychological environment where people can feel at ease. One

of the most important tasks to make a project plan successful is to arrange a kind of suitable guanxi among stakeholders, where project stakeholders work in group harmony and form lasting relationships. On the other hand, Australian culture is very different. An Australian project management approach rests on organisational charts and contractual relationships. For Chinese PMs, tasks can only be accomplished if a moral and close relationship within the group is achieved. Therefore, Chinese performance is measured on lasting relationships between stakeholders, whereas Australian performance is measured on a task-based platform. The two approaches lead to different project performance (Chen and Partington, 2003; Stawichi et al., 2007).

For the Chinese, an effective organisation for a project is a well-built guanxi network rather than an organisational chart. There are no pure business relationships among project stakeholders. Without guanxi, a project becomes difficult to execute. It becomes even more difficult to satisfy stakeholders (Stawichi et al., 2007).

2.4.1 Australian PMs Stakeholder Management approach

An Australian management philosophy and approach is based on thoughts and beliefs deeply rooted in the whole of Australian culture. One of these is the rational approach. Australian management adopts "precision" methods and tries to obtain all the relevant information to make detailed analysis and to make decisions based on the latter. The decisions are based on hard facts rather than soft factors and intuition. In addition, the focus is on the result. Managers in Australian society all too often focus on short-term solutions and they are more closely connected with rules and law. The legal contract is the key to preparing and making business deals (Stawicki et al., 2007).

This kind of Australian management approach can be called a “contractual management model”. Chen and Partington (2003:399) summarise the features of Australian PMs as follows:

- They primarily associate their work identity with the self. Australian PMs pay greater attention to their task work than building and maintaining personal relationships within the project team.
- Australian PMs conceive the client as an equal contract party and value a good contract with the client.
- They conceive subcontractors as an equal contract party and value a good contract with the subcontractor.
- They do not pay attention to group harmony and lasting relationships when resolving conflicts.
- They are more comfortable with a matrix project organisational structure. Australian PMs are more relaxed when facing uncertainties.
- They do not talk about their relationships within the company.

Australian PMs do not appear to care whether or not they know about the organisation stakeholder management process before starting the project. Most of the time, the PM joins the company for a particular project.

On the other hand, an Australian management philosophy and approach is based on thoughts and beliefs deeply rooted in Australian culture which is closely connected with rules and law. Therefore, the legal contract is the key to doing business (Stawichi et al., 2007).

Chen and Partington (2003) categories Australian PMs in three ways:

1. Project Management as planning and controlling
2. Project Management as organising and coordinating
3. Project Management as predicting and managing potential problems

2.4.2 Chinese PM Stakeholder Management approach

The Chinese usually prefer Guanxi (literally “interpersonal connections”) to monetary rewards. Although many Chinese are not as rich as people in developed countries, they pursue higher spiritual satisfaction from their work.

"Face" is one of the most important words in Chinese public relationships. The Chinese act according to the roles they accept and enjoy the process of getting results. The Chinese work happily in interactive teams: they consider how to uncover the hidden expectations of stakeholders; they are more interested in the whole attributes and the relationships among its elements; they take work as a part of life, and think it is most valuable to make people happy. And, the Chinese see people as the core of management (Stawicki et al., 2007).

This kind of Chinese approach to management can be defined as an informal management approach. Chen and Partington (2003) summarise the features of Chinese PMs as follows:

- They primarily associate their work identity with the company.
- They pay greater attention to building and maintaining personal relationships within the project team than to the task.
- They conceive the client as superior and value a long-term relationship with the client.
- They conceive subcontractors as subordinates and value a long-term relationship with the subcontractor.
- They pay greater attention to group harmony and lasting relationships when resolving conflicts.
- They are more reluctant to use a matrix project organisational structure.
- They tend to feel more pressured when facing uncertainties.

The Chinese stakeholder management approach is more informal. Chinese PMs' personal interests and goals are subordinate to the interests and goals of the organisation. And, because their self-identity derives from and is enhanced by their group membership (Newman and Nollen, 1996), their concern for the consequences of their actions for the company arguably leads to greater emotional dependency on the company (Chen and Partington, 2003).

The Chinese relationship culture accentuates hierarchy and the need to maintain harmony, valuing long-term co-operation for mutual benefit. Even though in modern China people sign contracts for business activities, the residual manifestation of deep-rooted cultural values makes the underlying relationship more important than the contract (Wong and Chan, 1999; Lee, 1996).

Chinese PMs tend to conceive the client as superior and will value a long-term relationship with the client; they also conceive suppliers as subordinate and will value a long-term relationship with the suppliers (Chen and Partington, 2003). The Chinese PMs express a strong self-identity as company employees and their personal career development is considered to be strongly dependent on the company's development.

Chinese PMs consider suppliers as brothers and sisters of their project team family (Chen and Partington, 2003). They emphasise that they should help and educate them and work closely with them as one family. Although they admit that they could be in competition with suppliers in certain circumstances, they believe that a good relationship, especially the personal relationship between them and the suppliers' directors, can eliminate any problems, and endeavour to foster and maintain a long-term relationship.

According to Stawichi et al. (2007), a Chinese approach to stakeholder management is based on three pillars embedded in the philosophy of Confucianism, Taoism, and Buddhism. These three approaches also reflect the plan-do-check-act circle:

- Confucianism – how to make plans and how to manage
- Taoism – how to act in accordance with nature
- Buddhism – how to review everything

Chen and Partington (2003) research identified three categories of Chinese project management:

1. Project Management as planning and controlling
2. Project Management as coordinating relationships
3. Project Management as developing relationships

2.5 Performance measurement and different stakeholder management approach

Performance measurement is the process of "determining how successful organisations or individuals have been in attaining their objectives [and strategies]" (Bitici et al., 1997:47). To achieve this, the outputs of organisational, strategic, and operational processes are measured, in a quantifiable form, to monitor the vital signs of the organisation (Hronec, 1993; Euske, 1984).

The performance of different approach depends on the management philosophy and the setting goals and standards. Performance management brings together all the best practice for managing stakeholders to achieve their full potential. Effective PMs use all the principles of performance management to motivate project stakeholders.

The core business in an EPCM project is undertaking projects to generate new projects, expanding or repairing existing ones for a variety of clients (Kagioglou et al., 2001). Traditional performance measurement in construction was approached in two ways: in relation to project success as a facility; and in relation to project management success. The latter in construction project performance is dedicated to the field of project success and researching success criteria. Ward et al (1991:343) state that, when assessing the success/failure of construction projects, "a common approach is to evaluate performance on the extent to which client objectives like cost, time and quality were achieved". Ward et al (1991:345) also argues that 'looking back on the conduct of a project, what sticks in the mind is often not so much financial success or early completion, but memories of other people involved and abiding impressions of harmony, goodwill and trust or,

conversely, of argument, distrust and conflict'. Walker et al. (2008) argue that a project that does not meet the expectations of influential stakeholders is not likely to be regarded as successful, even if it remains within the original time, budget, and scope. Therefore, a common approach to evaluating performance in EPCM projects is to satisfy client objectives and meet the expectations and needs of influential stakeholders.

A stakeholder group is important for achieving project objectives; and PMs should actively manage the relationship within stakeholder groups. PMs must address this increasingly important element in their performance measurement system by communicating with key stakeholders to determine their perspectives on what constitutes business success (Atkinson, 1997). Communication means listening to and understanding stakeholders' wants and expectations. Equally important, it also means communicating what the organisation is doing, as part of its strategy, to satisfy the stakeholders.

A project is regarded as successful if it is delivered on time, and within budget and scope. Today, the success of the project is measured according to the meeting of the expectations of influential stakeholders. The performance of Australian and Chinese PMs when managing project stakeholders in Africa are important. Zhao et al. (2009) claim that the performance of PMs must be measured according to:

- their ability to make business decisions;
- their financial ability –understand how money is managed in the project environment;
- their technological ability – the knowledge needed to accomplish scientific, engineering and other specific tasks;
- their understanding of the different business resources (capital, human and natural resources);
- their understanding of cost differences;
- their understanding of social and political factors;
- their understanding of environmental issues – how human activity can harm the biophysical environment;

- their understanding of the economic environment; and
- their understanding of the market and competition.

The performance of both Australian and Chinese managing EPCM projects in Africa can be measured using this list of abilities.

Referring to the engagement of Chinese firms managing EPCM projects in Africa, Zadek et al. (2009); Brautigam (2009); Wanee (2011) argue that the Chinese do not give work to Africans, and that they contribute to investments in corrupt governments that commit human rights atrocities against their own citizens. By contrast, other African scholars such as Baah (2003) and Pougala (2012) argue that the Chinese are bringing a new development approach and work ethic in Africa. They say that the Chinese are doing a good job with this different approach, while Australian researchers describe the Chinese as a threat to Africa. Zhao et al. (2009) claim that the diplomatic relationship between China and African countries is one of the significant opportunities for Chinese PMs to manage stakeholders in Africa. The Chinese develop long-term trade between countries, leading to greater mutual understanding, which in turn helps foster efficient working relationships between the Chinese PM and the local government (Chen, 2008).

By contrast, Australian EPCM organisations measure project performance against key project performance scope, schedule, quality, cost, and risk criteria. They often identify any deviations from their original plans, assess the impact of deviations on the project and overall programme, and report results to key stakeholders. The key stakeholders are generally defined in Australia as primary stakeholders, namely, the project owner and the project sponsor (Waddock, Bodwell, and Graves, 2002)

The Chinese stakeholder management approach is different to the Australian stakeholder management approach. Some stakeholders in Africa are satisfied with the Chinese management approach and others with the Australian management approach (Chen and Partington, 2003; Donnelly and Ford, 2008).

The performance in collectivist China requires Chinese managers to attempt to adjust the design, plan and management to suit needs and requirements (Chen, 2009). Chinese PMs perform very high because of the following qualities:

a) Hands-on management style. Being hands on offers convenience and efficiency as the PM can deal with problems as they emerge on site, thus avoiding any delay or further damage (Chen, 2009).
b) High motivation. Chinese groups are highly motivated and more solid; the sharing of duties and obligations are encouraged, and individuals within a collective are bound by affection and loyalty to one another (Chen and Partington, 2003).
c) Morally based relationship between subordinates and superiors. These collectivist approaches raise stakeholders' spirits.

The performance in the Australian approach tolerates individuality. Emphasis is placed on individual freedom and preferences, and the relationship between subordinates and superiors is more contractually based. This Australian individualistic approach can frustrate stakeholders from different cultures and the project performance decreases (Chen and Partington, 2003).

The Chinese management approach seems to encourage loyalties and relationship. Stakeholders are highly motivated in the collective projects environment than the individual projects environment.

Both approaches have their respective merits which contribute to project success. This brings us to the aim of this research which is to determine which approach is the best way to manage projects in Africa.

2.6 Summary

This chapter has presented the different definitions of stakeholders and confirms that these definitions diverge in a number of ways. The accepted

definition that is used for this study is the one by Bourne and Walker (2006): stakeholders are individuals or groups who have an interest, or any aspect of rights or ownership, in the project, and can contribute to, or be impacted by, either the work or the outcomes of the project. The history of the stakeholder concept is presented in detail. The cultural and management approaches of the Chinese and Australian paradigms are described. EPCM project organisation should increase stakeholder satisfaction and delight through effective stakeholder management. The successful management of stakeholder initiatives will establish a service excellence environment/culture and provide effective leadership to overcome any dissatisfaction for project stakeholders. Thus, it was important to explain the management approaches of Chinese and the Australian PMs, as both have their respective merits which contribute to project success. A new approach which combines the best practices of the Chinese and Australian approaches will be valuable for large EPCM projects. The new approach, which is the aim of this thesis, could have a significant impact on both project and project management success.

As the current chapter (Chapter 2) has identified several stakeholder management research issues; this next chapter investigates the stakeholder management theory and develops a conceptual stakeholder management framework.

Chapter 3

Stakeholder Theory and Propositions

3.1 Introduction

This chapter reviews literature on stakeholder management theory and develops a new perspective to enhance the understanding theory based on stakeholder management on the most progressive elements in existing ideas. It answers research objective one is make over as research question one (What is stakeholder theory?) by developing assumptions to test the new prospective theory. In chapter 2, the definitions of stakeholder management are being presented this chapter 3 presents the stakeholder management theory.

The purpose of this chapter is to attempt to deal with conflicting opinions on stakeholder management theory discussed in the literature. Stakeholder theory is timely, yet young; it is controversial, whilst at the same time important (Laplume et a., 2008). It is timely because of the emergence of formal organisations as the dominant institutions of our time, increasing reports of ethical misconducts, particularly issues around the harmful impacts of corporate negligence with regard to the natural environment. It is young because empirical validity is yet to be established on several of its key propositions (e.g., Jones, 1995). Stakeholder theory is also controversial because it questions the conventional assumption that the pursuit of profits is the preeminent management concern. Jensen (2002: 237) identifies profit making as the “single-valued objective” of a corporation. It is also important because stakeholder theory seeks to address the often overlooked sociological question of how organisations affect society (Hinings and Greenwood, 2003; Stern and Barley, 1995).

The origins of stakeholder management theory come from the field of business and strategic management theory. Other scholars since Freeman (1984) have further developed multiple theories of stakeholder management,

although most of these theories are somewhat confusing. Some definitions of project stakeholders have been presented in Chapter 2. Moreover, academics' formulations of stakeholder theory continually change and provoke disagreements over deeply-rooted values. Friedman and Miles (2002) acknowledge that the complexity of stakeholder and organisational relations involves sweeping theoretical propositions that are difficult to support. They note that existing stakeholder management theories often omit to recognise fundamental facts of business life: that practical forces operating in the corporate world which affect stakeholder relations should be recognised and the boundaries between different stakeholders may be blurred and unstable. Additionally, the dynamics of stakeholder and organisational relations are often over-simplified and stakeholder "types" are rarely distinguished in the literature (Collinge, 2012).

A comprehensive review of stakeholder theory is provided by Crane and Ruebottom (2012). In their paper, Crane and Ruebottom (2012) focus their review on the way stakeholder categories are classified by identifying critical weaknesses and key strengths in existing approaches. They then outline an alternative approach that refines the understanding of stakeholders in important ways. To do so, they draw on the notion of social identity as the fundamental basis for group cohesion, mobilisation and action. Nonetheless, the alternative approach of the stakeholder framework that Crane and Ruebottom (2012) provide is more focused on the corporate social responsibility (CSR) framework, which suggests that an entity, be it an organisation or individual, has an obligation to act for the benefit of society at large, rather than the stakeholder management framework.

Indeed, the diverse opinions on stakeholder management theory come from the different mindset among CSR, also called corporate conscience, corporate citizenship, social performance, or sustainable responsible business, and stakeholder management. The difference between stakeholder management and CSR is due to a misunderstanding of the character of stakeholder management and the role of CSR in organisations.

Both CSR and stakeholder management came into common use in the late 1960s and early 1970s. Freeman (1984) used CSR to describe corporate owners beyond shareholders and had an enormous impact on the development of stakeholder management theory.

CSR is a form of corporate self-regulation integrated into a business model. CSR policy functions are a built-in, self-regulating mechanism whereby a business monitors and ensures its active compliance with the spirit of the law, ethical standards, and international norms. CSR is a process aimed at embracing responsibility for the company's actions and encouraging a positive impact through its activities with the environment, consumers, employees, communities, stakeholders and all other members of the public sphere who may also be considered as stakeholders (Waddock et al., 2002). CSR is an enabling factor of stakeholder management. However, stakeholder management supports an organisation's strategic objectives by interpreting and influencing both the external and internal environments, and by creating positive relationships with stakeholders through the appropriate management of their expectations and agreed objectives. Stakeholder management is a process and control that must be planned and guided by underlying principles (Llewellyn, 2009).

3.2 Theory

The word “theory” means a number of different things, depending on the context. In mathematics and sciences, theory is a tested and testable concept which is used to explain an occurrence. In arts, theory refers to non-practical aspects of the work. Laypeople refer to unproven ideas and speculation as theories. The Oxford Dictionary notes that the English word “theory” was derived from a technical term in philosophy in Ancient Greece. The word *theoria* meant "a looking at, viewing, beholding", and referred to contemplation or speculation, as opposed to action. Theory is especially often contrasted with "practice" (from Greek *Praxis*) a Greek term for "doing",

which is opposed to theory because theory involves no doing apart from itself.

Whetten (1989) explains that a theory consists primarily of concepts and causal relationships that relate to these concepts. Koskela (2000), in prior research, listed the following roles of theory:

- A theory provides an explanation of observed behaviour, and thus contributes to understanding. A theory provides a prediction of future behaviour.
- On the basis of the theory, tools for analysing, designing and controlling can be built.
- A theory, when shared, provides a common language or framework, through which the cooperation of people in collective undertakings, like a project, firm, etc., is facilitated and enabled.
- A theory gives direction in pinpointing the sources of further progress.
- When explicit, testing the validity of a theory in practice leads to learning.
- Innovative practices can be transferred to other settings by first abstracting a theory from that practice and then applying it in target conditions.
- A theory can be seen as a condensed piece of knowledge: it empowers novices to do the things that formerly only experts could do. It is thus instrumental in teaching.

The multitude of meanings for the word theory can get confusing. A theory must be made up primarily of ideas and fundamental relationships that relate to these ideas (Whetten, 1989).

Researchers have studied stakeholder management theory as one of the most common frameworks used in the research community for conceptualising and understanding issues concerning corporate ethical responsibilities (Stoney and Winstanley, 2001; Schwartz and Carroll, 2008). Interestingly, stakeholder theory has been used in different ways in studies

after Freeman (1984). Researchers have written many articles about stakeholder theory (Donaldson and Preston, 1995; Jones and Wicks, 1999; Buchholz and Rosenthal, 2005; Bourne and Walker, 2006). There have been different theories developed by academics (Figure 3.1), such as Donaldson and Preston (1995), Jones and Wicks (1999), Gibson (2000); Kolk and Pinkse (2006). However, most of the researchers have developed the majority of studies around three main categories of stakeholder theory as classified by Donaldson and Preston (1995), namely normative, instrumental and descriptive.

Normative stakeholder theory deals with the reasons why corporations ought to consider stakeholder interests even in the absence of any apparent benefit. Most applied normative frameworks include feminist ethics (Burton and Dunn, 1996; Lampe, 2001; Wicks, 1996; Wicks, Gilbert, and Freeman, 1994) and principles of “fair play” (Cludts, 1999; Etzioni, 1998; Phillips, 1997b; Van Buren, 2001). In other words, it contains theories of how managers or stakeholders should act and should view the purpose of the organisation, based on some ethical principles.

Instrumental stakeholder theory is concerned with the impact stakeholders may have on corporate effectiveness. For example, the “common good” (Argandona, 1998), critical theory (Reed, 1999), deontology (Gibson 2000; Palmer, 1999), Aristotelian ethics (Wijnberg, 2000), libertarianism (Freeman and Phillips, 2002), Kantian ethics (Lea, 2004), organisational justice (Hosmer and Kiewitz, 2005), and pragmatism (Buchholz and Rosenthal, 2005). Egels-Zande and Sandberg (2010) claim that instrumental stakeholder theory is used to identify the connections, or lack of, between stakeholder management and the achievement of traditional corporate objectives. Hence, instrumental stakeholder theory could be interpreted as research into the positive or the negative links between stakeholder management and financial performance and into what would explain these links. It studies the organisational consequences of taking into account stakeholders in management, examining the connections between the practice of stakeholder management and the achievement of various corporate governance goals.

Descriptive stakeholder theory explains whether stakeholder interests are being taken into account. In particular, how stakeholders are managed in practice (Clarkson, 1995). In other words, it is aimed at understanding how managers deal with stakeholders and how they represent their interests. The corporation is viewed as a constellation of interests, sometimes competitive and sometimes co-operative.

Numerous CSR studies have based their definition on the taxonomy of Donaldson and Preston's (1995) stakeholder theory and utilise this definition by focusing on behaviour and ethics. Hence, given this interpretation of "stakeholder management", there has been ample empirical research into the classification of stakeholder theory.

When discussing the taxonomy of stakeholder theory (normative, instrumental, and descriptive), it should be noted that the issue related to stakeholder theory is part of a broader class of issues, often said to be concerned with the link between corporate social performance (CSP) and corporate financial performance (CFP), representing a growing part of this field. According to some writers, normative stakeholder theory appears to be one of the main theoretical frameworks for defining CSP in this CSP–CFP research (e.g., Margolis and Walsh, 2003). Indeed, where Donaldson and Preston note that CSP–CFP research at the time of their article did "not translate easily into a [n] [instrumental] stakeholder theory context" (1995: 77), the situation seems very different today (e.g., Waddock and Graves, 1997; Moore, 2001). The question, then, is whether managers understand the difference between CSR and stakeholder theory in the same way as Donaldson and Preston (1995). The answer to this question depends on the chosen definition of "stakeholder management".

As noted in Chapter 2, this study uses Bourne and Walker's (2006) definition of stakeholders as individuals or groups who have an interest, or any aspect of rights or ownership, in the project, and can contribute to, or be impacted by, either the work or the outcomes of the project. Donaldson and Preston (1995:67) define stakeholder theory as "a framework for examining the connections, if any, between the practice of stakeholder management and

the achievement of various CSR goals", and they note that the principle focus of interest in this research has been that, "corporations practicing stakeholder management will, other things being equal, be relatively successful in conventional performance terms" (Donaldson and Preston, 1995).

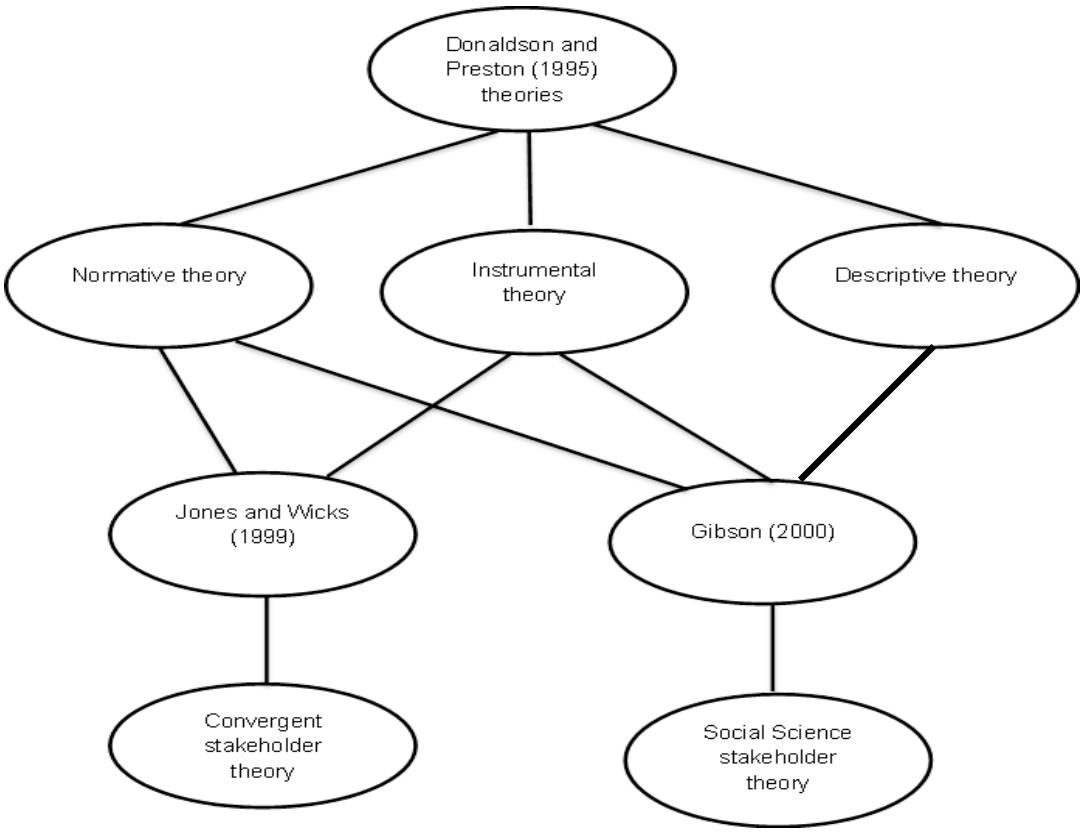


Figure 3.1 Different stakeholder theories.

Extensive discussion of stakeholder theory has, to date, mainly applied to the normative and instrumental perspectives (Donaldson and Preston, 1995; Jones, 1995; Jawahar and McLaughlin, 2001; Mellahi and Wood, 2003; Jones and Wicks, 1999; Trevino and Weaver, 1999; Butterfield et al., 2004). Consequently, the descriptive aspects of stakeholder theory have been largely neglected. Egels-Zanden and Sandberg (2010) claim that the tendency is at least partly related to Donaldson and Preston's (1995) framing of normative stakeholder theory as the core interpretation of the theory (Berman et al., 1999). Freeman (1999) and Kaler (2003) have criticised the

separation of these three aspects into distinct parts. However, Donaldson and Preston (1995) argue that there is good reason to separate the theory into three distinct parts. This taxonomy of normative, instrumental and descriptive stakeholder theory shadow the theory with a CSR understanding.

Some researchers have combined Donaldson and Preston's (1995) normative and instrumental theory to develop other theories, including Jones and Wicks (1999), and Gibson (2000) see Figure 3.1. Jones and Wicks developed what they called "convergent stakeholder theory". Convergent stakeholder theory is descriptive and instrumental, but it is more fundamentally normative. Stakeholders are identified by their interests and all stakeholder interests are considered to be intrinsically valuable. The convergent stakeholder theory was dismissed as unsound by Freeman (1999: 233),

> We do not need more theory that converges but more narratives that are divergent – that show us different but useful ways to understand organisations in stakeholder terms.

Next, social science stakeholder theory developed by Gibson (2000) focuses on the concepts of justice, equity, and social rights having a major impact on the way that stakeholders exert moral reason over project development or change initiatives. Bourne and Walker (2006) use three different stakeholder theories to develop their tools. They use social science stakeholder theory by Gibson (2000), instrumental stakeholder theory developed by Donaldson and Preston (1995), and convergent stakeholder theory by Jones and Wicks (1999). However, the use of these three theories is a repetition of the same theories, because social science stakeholder theory and convergent stakeholder theory are a combination of normative and instrumental theory by Donaldson and Preston (1995).

Many researchers have been asking the following questions: What are the normative foundations of stakeholder theory? What are the problems of stakeholder theory? And which theories do stakeholder theory compete with? A number of authors have tried to answer these questions. Laplume et al. (2008) summarises research articles addressing the theory of stakeholder

management with a consideration of some questions arising from these studies.

Building on Milton Friedman's longstanding dictum that "there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits" (1982: 133), Jensen (2002) insists that stakeholder theory conflicts with 200 years of economic theory and research, which espouses the doctrine that social well-being is maximised when shareholder wealth is maximised. On the other hand, Marens and Wicks (1999) review several decades of U.S. jurisprudence regarding the fiduciary duties of directors, concluding that there are no legal obstacles to implementing stakeholder management.

Yet, others argue that stakeholder theory amounts to a generalized form of a supposition that explains the relationship between principals and agents in business (agency theory) (Hill and Jones, 1992; Shankman, 1999). Shankman observes that "stakeholder theory is in fact the necessary outcome of agency theory and is thus a more appropriate way to conceptualise theories of the firm" and that "agency theory, when properly modified, is at best a narrow form of stakeholder theory" (1999: 320).

As might be expected, given that the theory has been used to conceptualise CSR and corporate social performance, similar concepts have also emerged in the business and society research domain. For instance, Bishop (2000) proposes that integrated social contract theory may be more appropriate for stakeholder management, whereas Scherer, Palazzo, and Baumann (2006) suggest that the emerging theory that businesses are socially responsible for meeting legal, ethical and economic responsibilities placed to them by stakeholders (corporate citizenship) is more appropriate. Matten and Crane (2005) examination of the literature is more comprehensive and useful in our increasingly globalised world (Friedman, 2007). Finally, Luoma and Goodstein explain that "stakeholder theory can be meaningfully integrated into institutional theory" (1999: 559).

In summary, stakeholder theory has attracted attention from researchers engaging with myriad different theories, both complementary and competitive

in business as in projects. If indeed stakeholder theory matches with CSR theory, this match has resulted in prior studies concluding that there is no explicit theory of stakeholder management; or, as pointed out by Kagioglou et al. (2001), Kakabadse and Morsing (2006) argue that a stakeholder approach response to the challenge presented by Freeman observation that read that "[O]ur current theories in stakeholder management is inconsistent with both the quantity and kinds of change that are occurring in the business environment of the 1980s… A new conceptual framework is needed"(Freeman, 1984:5). Kakabadse and Morsing (2006) further claim that stakeholder framework has roots in a number of academic fields. This shows the need of the new prospective theory in EPCM project. Bourne and Walker (2006) claim that one major task that needs to be undertaken in developing a project's strategic aims is to identify stakeholders and thereby develop a project brief that best addresses their often conflicting range of needs and wishes. To identify stakeholders, it is important to know the theory of stakeholder management and the definition.

The positions of these studies enable us to look at the question of whether stakeholder management is considered a science or an art form. For this study, science is defined as rational and art as affective. Using of Bourne and Walker's definition of stakeholders, we can say that stakeholder management is both rational and affective. It is rational because it seeks to understand and apply processes, tools, and techniques. Academics claim that PMs need to develop the "hard" skills of management to successfully deliver projects (Bourne and Walker, 2006). It is affective because it involves the organisation and the people. It requires the task of organising, building, and motivating the stakeholders. Bourne and Walker (2006) claim that, for a PM to successfully deliver a project, "soft" skills management need to be developed.

Therefore, if stakeholder management is a rational and an affective theory, studying stakeholder management must be a combination of rational theory and effective theory.

3.2.1 Rational theory

Rational theory is designed to rationally and clearly explain a phenomenon. For example, normative and instrumental theories are rational. The theory rationally and clearly explains how, if the managers or stakeholders act by the book, the interests of the organisation benefit. This is a rational (scientific) based theory. Instrumental theory deals with how managers should act if they want to work for their own interests. In some literature, the ownership interest is conceived as the interests of the organisation, which is usually to maximise profit or to maximise shareholder value. This means that if managers treat stakeholders in line with the stakeholder concept, the organisation will be more successful in the long run. The rational-based theory helps develop tools which help analyse, design, and control project works and stakeholders. Koskela (2000:26) claims that theory can be “tools for analysing, designing and controlling”. Instrumental theory works in the direction outlined by Koskela (2000). For example, Bourne and Walker (2006) used the theory to develop a stakeholder assessment tool called Stakeholder Circle (Figure 3.2). The key elements of the Stakeholder Circle are: concentric circle lines that indicate distance of stakeholder from the project or project delivery entity; the size of the block, its relative area, indicates the scale and scope of influence; and the radial depth can indicate the degree of impact (Bourne and Walker, 2006). The tool is a commercialised tool.

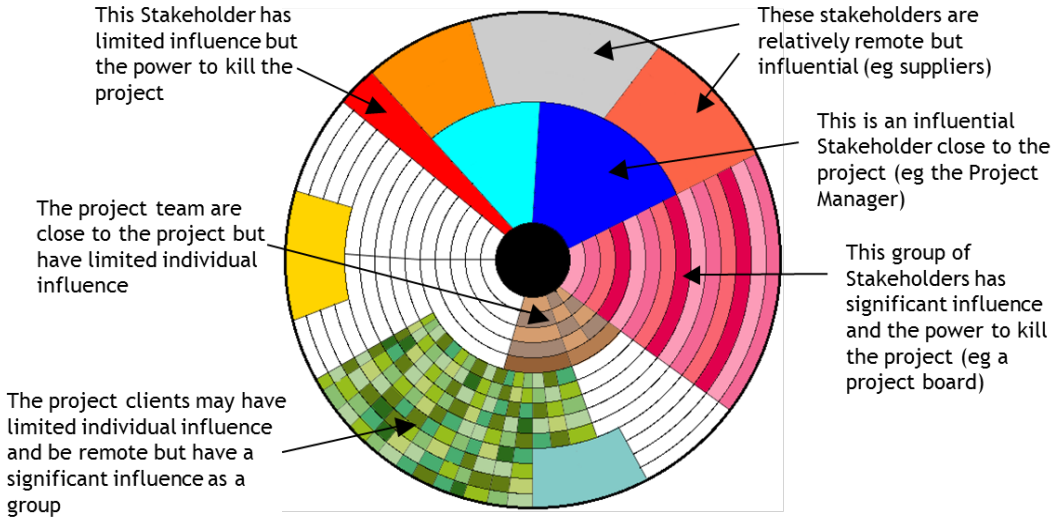


Figure 3.2: Stakeholder Assessment Tool. Source: Walker and Bourne, 2006.

There are several key elements in Figure 3.2 (stakeholder circle). The first are the concentric circle lines, which indicate distance of stakeholders from the project or project delivery entity. The second is the patterns of stakeholder entities which indicate their homogeneity; for example, a solid shade indicates solidarity while shading or patterning can indicate heterogeneity in presenting an interest. The third is the size of the block, and its relative area covered by the circle, which indicates the scale and scope of influence. And the fourth is the colour density which indicates the degree of impact. This tool can be very useful for PMs trying to understand, and trying to remain alert to, the nature of stakeholder impact.

3.2.2 Affective theory

Affective theory refers to non-practical work and criticism. Affective theory is how emotion impacts on people's work, rather than actively producing the work (Baumeister et al., 2007). Affective theory originated from research in the field of psychology. Discussion in psychology suggests that the ideas of some people, in some cases, involve some bias; therefore, the idea of affective stakeholder theory is very complex to analyse. The author agrees with Camerer and Rabin's (2005) claim that we need psychological

justification in order to make that assumption. Each of us has emotions, and emotions carry stereotypes, causing people to behave in foolish, illogical, and sometimes destructive ways. Baumeister et al. (2007) developed a theory of emotion as a feedback system whose influence on behaviour is typically indirect, and this emotion impacts on situations in which we exhibit present-bias. Koskela (2000:25) claims that “a theory provides an explanation of observed behaviour, and contributes thus to understanding. A theory provides a prediction of future behaviour”. The skill to manage this theory is a leadership issue. PMs need to develop a high level of leadership skills to control and manage stakeholders.

Nonetheless, extensive discussion on normative and instrumental theory is simply due to their scientifically confined relationship theory. Normative theory’s identification of moral or philosophical guidelines is linked to the activities or the management of corporations. And instrumental theory studies the organisational consequences of taking into account stakeholders in management, examining the connections between the practice of stakeholder management and the achievement of various corporate governance goals. These theories are easily quantifiable and testable and fall under rational theory.

Descriptive theory functions to understand how managers deal with stakeholders and how they represent their interests. This theory offers a critique of the behaviour of PMs and stakeholders. It is an affective, art based theory. Affective theory is about having emotional impact and managing stakeholders in an environment of different cultures and different emotions that require the application of soft skills of management.

Carnegie (1937:5) claims that “managers should have the ability to deal with people”. He points out that, “to deal with people, managers must be able to understand and forgive people by not criticising, not condemning, and not complaining”. The popularity, happiness, and sense of worth of stakeholders depend upon a PM’s skill in dealing with people. When a PM is displeased with the outcome of a project, it is much easier to criticise and condemn stakeholders than to try to understand their viewpoint. “It is frequently easier to find fault than to find praise”. Moreover, Carnegie (1937:13) states that

“human nature in action is, wrongdoers, blaming everybody but themselves and we are all like that. So when dealing with people, let us remember we are not dealing with creatures of logic. We are dealing with creatures of emotion, creatures bristling with prejudices and motivated by pride and vanity”.

Bourne and Walker (2006) claim that for PMs to successfully deliver projects they need to develop their “hard” and “soft” skills management. For the purpose of this study, hard skills represent the rational theory, while soft skills represent the affective theory. They provide three dimensions of stakeholder management skills. Hard skill management helps PMs identify stakeholders, while soft skill management assists PMs manage stakeholders after identification. PMs need to manage stakeholders based on culture, expectations, organisation politics, and communication.

Hartmann and Hietbrink’s studies (2013) show that the general assumption of previous studies that meeting stakeholder expectations in construction projects is a prerequisite for satisfied stakeholders is not the main requirement for stakeholder satisfaction. Expectations only play a minor role in the formation of satisfaction about the maintenance process and the information delivery.

Hard skills are part of the craft of stakeholder management and are the first dimension skills. The second set of skills is defined as second-dimension skills and is described as the art of project leadership. Soft skills are required to facilitate the application of hard skills, because they involves people or hardware. Third dimension skills are essential for successful stakeholder management. This requires competencies beyond management and leading. The key to third dimension skills is the ability to read the power structures of the stakeholder ecology and the willingness to operate in this environment.

To manage the group of stakeholders, relevant managerial attitudes, structures, and practices are needed. This requires that simultaneous attention be given to the interests of all legitimate stakeholders. Based on this definition, we can say that stakeholder management is both rational and affective. It is rational because it seeks to understand and apply processes,

tools and techniques for the best interest of stakeholders. It is affective because it involves the attitudes of the PM, organisation, and the people's needs and satisfaction. For successful stakeholder management, PMs need to have developed these management skills and appropriate experience and wisdom to manage EPCM project stakeholders.

3.3 Theory of stakeholder management

There exists extensive literature on the topic of stakeholder management research, but the theories are not well developed. This chapter seeks to develop a new theory of stakeholder management, which can derive refutable hypotheses for empirical testing.

As Friedman (1976) states:

> Economic theory, like all theory, may be thought of in two ways. It may be thought of as a language or filing system or it may be thought of as a set of substantive, empirical propositions.

Friedman points out that the relevant question to be asked for the first category of theory is "usefulness" and not "rightness or wrongness". Friedman further describes the second category of theory as "a set of substantive propositions that are, in principle, capable of being tested because they attempt to be predictive". In this light, for the second category of theory, "testability" is the only criterion that determines whether a proposition amounts to a theory or not.

Based on one of the roles of theory, classified by Koskela (2000) "a theory, when shared, provides a common language or framework, through which the cooperation of people in collective undertakings, like a project, firm, is facilitated and enabled"; the framework of stakeholder management is developed based on this role.

Most scholars would agree that stakeholders are not a product, liability, or service. Stakeholders are people and groups of people whom PMs have to

manage during the life cycle of the project (Freeman, 2008; Bourne and Walker, 2006).

3.3.1 What is a stakeholder management theory?

Stakeholder management theory is a combination of both rational and affective theory. Firstly, stakeholder management involves the optimisation of processes which is one set of skills and falls into rational theory. Secondly, the complex processes involving human emotion and behaviours, which is another set of skill, falls into affective theory. Thirdly, the line in between rational and affective theory is not static, or should not be static –it should be flexible to facilitate the understanding of the theory and to allow a non-ideological, neutral approach, which is also the willingness of a PM to operate in different environments. If a PM takes any set of skill principles to the extreme, there will be problems. So, PMs have to guide stakeholders from deception by adding willingness to the set of skills required to manage stakeholders.

Two sets of skills are needed for stakeholder management, namely, hard skills and soft skills. The latter includes informal “guanxi” and the ability to read the power structures of the organisation and the willingness to operate in this environment. When the two sets of management skills are exercised differently, stakeholder satisfaction levels will change. Australian management approaches focus on task, work, and contractual arrangements which are measurable. The contractual arrangement model is transactional, and according to Miles and Ballard (1997), in contractual arrangements, the object of the exchange is clearly understood. The skills required to manage contractual arrangements are hard skills and some soft skills. Australian PMs tend not to focus on informal “guanxi” relationships. Regardless of Freedman (2006), who says that the idea of stakeholders, or stakeholder management, or a stakeholder approach to strategic management, is to formulate and implement processes which satisfy all and only those groups who have a stake in the project, the central task in this process is to manage and integrate the relationships and interests of shareholders in a way that ensures the long-term success of a project.

A Chinese management approach focuses more on the informal “Guanxi”, the ability to read the power structures of the organisation, and the willingness to operate in this environment. The recommendation of Freedman (2006) seems to be an idea from the Chinese management approach, as the Chinese stakeholder approach to strategic management model is to manage and integrate the relationships and interests of shareholders in a way that ensures the long-term success of the project. In an informal “Guanxi” relational arrangement, goals and objectives are much more undefined and the results uncertain, such that “rules" change with the life of the contract (Miles and Ballard, 1997).

3.4 New perspective of stakeholder management theory

This new perspective of stakeholder management theory is seen as the ‘best’ part of both Australian and Chinese way of stakeholder management. Since the aim of this study is to determine the best approach for stakeholders’ management from Australian and Chinese PMs managing stakeholders’, the part of the Australian stakeholders’ management that resulted in positive results towards the satisfaction of the stakeholders have been linked with the part of the Chinese stakeholders’ management that resulted in the positive results towards the stakeholder’s satisfaction in Chapter 7 which contributes to the stakeholders’ management body of knowledge.

Although no other scholars appears to have defined the stakeholder management theory, the latter is a key to stakeholder management. The development of the theory is underpinned by assumptions. The research assumptions consider the relationships between PMs and project stakeholders, qualitatively and quantitatively.

3.5 Propositions

In light of the ongoing discussion, this research was conducted with the the following assumptions to contribute to the theory for stakeholder management.

Assumption 1:

PMs are responsible for managing the stakeholder ecology presented in the methodology.

Assumption 2:

The more sensitive PMs are to diverse stakeholder expectations, the higher the level of participation by the stakeholders to the project.

Assumption 3:

The greater the quantity and better the quality of communication, the higher the stakeholder satisfaction level.

Assumption 4:

The stakeholder management model will enhance stakeholder satisfaction.

Assumption 5:

This stakeholder satisfaction will improve the project success

3.6 Structure of the Propositions

There are three variables of stakeholder management in EPCM projects determined in the literature review. These can be considered as playing an important role in forming stakeholder satisfaction: level of formality, level of participation and level of communication. What is the bottom line of stakeholder satisfaction? Previously, stakeholder satisfactions were measured based on the three constraints (Time, Cost and Scope). It further

moved to expectation, process and information (Hartmann and Hietbrink, 2012; Walker et al., 2008). These researchers identify the three variables that will make stakeholders even are more satisfying.

1. The level of formality relates to the type of contract and relationship PMs have with the stakeholders; stakeholders can have first choice of the relationship.
2. The level participation addresses the involvement of PMs in stakeholder activities or the co-operation between PMs and stakeholders, and again stakeholders can have expectations about the involvement of the PMs.
3. The level of communication relates to the frequency and quantities of communication the PM has with the stakeholders and the amount of feedback stakeholders provide to the PM.

For the three variables, it can be argued that, in line with the new perspective of stakeholder management theory, certain interplay of PM management approaches will determine (dis)satisfaction of stakeholders. The level of formality in EPCM projects as well the level of participation; stakeholders will heavily rely on information (communications). Therefore, the level of communication depends on frequency and quantity of information regarding realistic expectations and accurate representation of actual performance (Strong et al., 2001). Information received by stakeholders is considered to be an important aspect in the formation of satisfaction in EPCM projects and, again, on the interplay of satisfaction level. Besides the level of formality, level of participation and level of communication, the structural model also includes the overall satisfaction with an EPCM project, which is conceptualised as an aggregated assessment of the three variables (Formality; Participation; Communication) and as such is an indicator for the relative importance of EPCM project stakeholder management overall satisfaction. The assumption structure is portrayed in Figure 3.3.

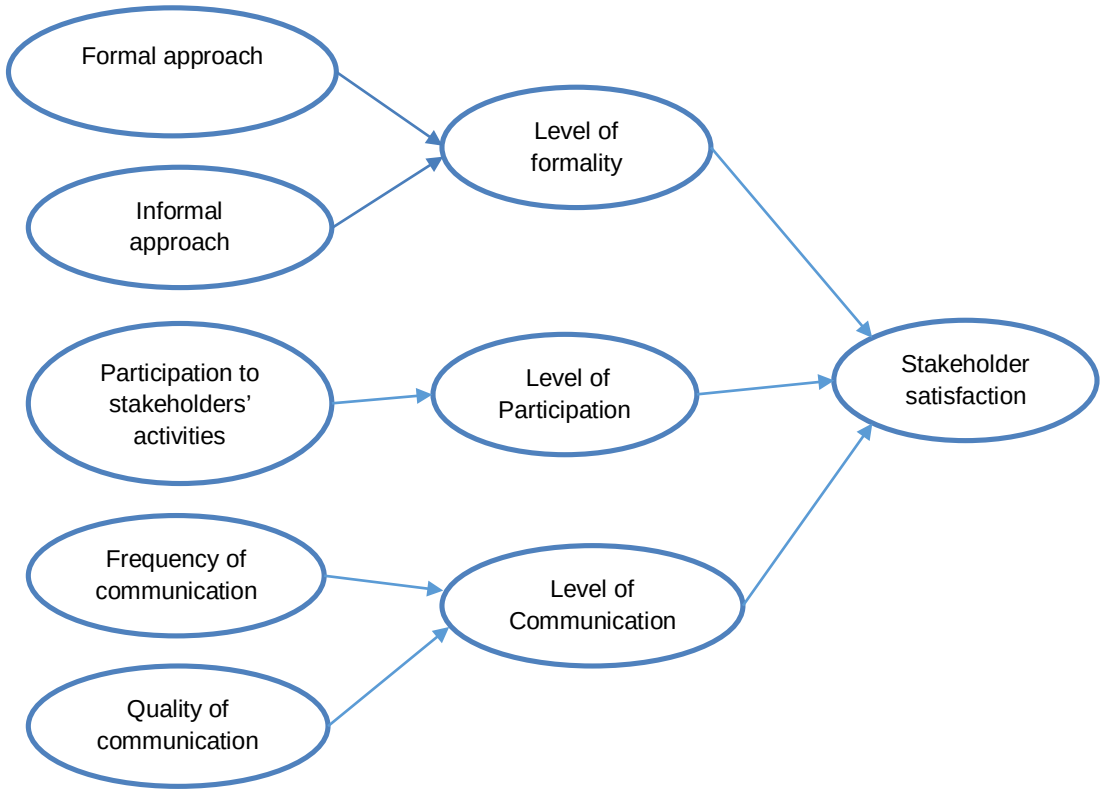


Figure 3.3. Diagrammatic representation of the proposed assumptions for any set of the different approaches

The research analyses the formality level, participation level and communication level in projects in Africa. The main idea is to think about the responsibility of the PMs with regard to stakeholders; how the model will enhance stakeholder satisfaction; how more effective communication, either formal or informal, will improve "guanxi" and hence stakeholder satisfaction; and what the impact of the formal contractual relationships and informal "guanxi" will have on the projects; how the stakeholder satisfaction will improve the project successful? These are the main areas focused on during the research to contribute to further stakeholder satisfaction.

Effectiveness and efficiency are evaluated according to the viewpoint of the stakeholders. Effectiveness is defined as producing the intended or expected result. Efficiency is defined as performing or functioning in the best possible

manner with the least waste of time and effort, having and using the requisite knowledge, skill, and industry, and being competent and capable.

Effectiveness and efficiency in stakeholder management require a participatory approach, involving all stakeholders in the project lifecycle phases, especially in decision-making. A truly participatory approach will strengthen responsiveness and provide a sense of ownership, which will contribute to the likelihood of achieving the project's objectives.

3.7 Summary

This chapter has presented an account of the inconsistencies in stakeholder management theory, and demonstrated how CSR theory shadows stakeholder management theory. The review of previous research on stakeholder management addresses the first research question (What is stakeholder theory?). It provides an overview of how stakeholder theory has been discussed in the research to date. The approach to developing a new perspective of stakeholder management theory has been identified as being vital for large EPCM projects. Refutable assumptions have been developed from the stakeholder theory literature. The new stakeholder management framework will be developed on the basic postulation that PMs are responsible for managing stakeholders. Next, the greater the quantity and better the quality of communication, the higher the stakeholder satisfaction level. Furthermore, the more sensitive PMs are to diverse stakeholder expectations, the higher the level of participation by the stakeholders to the project. More, the stakeholder management model will enhance stakeholder satisfaction. Finally, this stakeholder satisfaction will improve the project success. This study will mainly forecast on the three variables to elaborate the new perspective theory of stakeholders' management which will be the new theory of stakeholders' management coming from the best part of both Chinese and Australian stakeholders' management. A new stakeholder management approach based on best practices from Australian and Chinese

approaches aims to increase stakeholders' satisfaction and improve project success.

Chapter 3 developed a perspective of new conceptual stakeholder management framework and five assumptions are established from the three variables developed. The next Chapter 4 describes the methodology used to provide data to investigate hypothetical propositions.

Chapter 4

Research Methodology

4.1 Introduction

This chapter presents the research methodology used in this study. Naidoo (2006:64) defines methodology as "a description and analysis of methods chosen, as well as their limitations and resources, and outlines their assumptions and consequences". An introduction to the methodology was provided in Section 1.6 of chapter 1; this chapter aims to build on that introduction and to provide further details on how the procedures were followed. There are four main parts of this chapter: the research philosophy, the sampling procedure, research methods, and data processing.

A multi-method research approach, underpinned by the principle of triangulation is used in this study. Triangulation implies the use of more than one measurement procedure when investigating a research problem (Bryman et al., 2008). First, research uses qualitative research methods as it explores and elicits extant understanding regarding how professional PMs manage stakeholders in EPCM projects in sub-Saharan Africa. Later, quantitative research approach is used to support the qualitative approach. This chapter mainly aims to describe the research methods used and to validate and cross-validate build upon the findings from the qualitative methods. It starts with discussing the research philosophy and its influence towards the design of this research. This is followed by an explanation of the research Phases, and an overview of the respondents who participated in the primary research. It also highlights the procedures used to collect and analyse the data. Lastly, it highlights some challenges encountered while conducting this study.

4.2 Philosophical Descriptors of Management Research

Fellows and Liu (2003: 4) describe research as a careful process of searching and investigating. They emphasised that research is a "voyage of

discovery". A general view in literature regarding the drive for this study is to contribute to the existing body of knowledge and to facilitate the progression of solutions to problems. Sekaran (2000) describes research as an organised, data-based, critical inquiry into a specific problem. Narrowing this down, management research is a unique and critical part of a wider body of knowledge. It involves three features, described by Easterby-Smith et al. (2012: 2) as:

I. The long-standing argument regarding the use of qualitative research methods over quantitative methods and vice versa.
II. The on-going debate about whether management research should lead to developing an academic theory, or whether it should lead to solutions of practical problems.
    - The former, referred to as pure research, calls up the image of a scientist studying companies and their employees from a distance;
    - The latter, known as applied research, employs researchers to work with managers and employees to understand the strategies and practices.
III. Management research as a political phenomenon. This is because most studies take place within formal organisations that have distinct boundaries and are controlled from within.

This study adds into the account these three features as it utilises the qualitative and quantitative methods to research into companies involving Chinese and Australian PMs in EPCM projects in sub-Saharan Africa.

Acknowledging the three features of management research, it has been considered important to understand the philosophical underpinning of the research and discuss how this impacts on the design of the research methodology.

It is important to understand the different dimensions to philosophical reasoning underlying management research. There are numerous reasons

for this. As Hughes (1994:2) asks: “what is it about philosophy that gives it this seemingly vital role in human intellectual affairs? Is this simply a contingent fact of our intellectual history, or is there something distinctive about philosophy itself, which gives it this authoritative place?” According to Crossan (2003), it is the nature of philosophical questions that best demonstrates the value of understanding philosophy. Smith (1998) adds that it is the uncomplicated style and innocent way of questioning that makes the study of philosophy of special benefit. The indirectness and circular nature of philosophical questioning in itself is helpful. It encourages in-depth thinking, and generates further questions in relation to the topic under consideration (Crossan, 2003).

When planning a research study, it is crucial to clarify assumptions related to personal values. According to Proctor (1998), individuals rarely take time to do this in everyday life, but exploring basic personal beliefs could assist in understanding wider philosophical issues; notably ‘… the interrelationship between ontological (what is the nature of reality?), epistemological (what can be known?), and methodological (how can a researcher discover what she or he believes can be known?) levels of inquiry’.

Easterby-Smith et al. (2012) illustrated research by using a fruit tree which is made-up of roots, trunk and branches, leaves and fruits (see Figure 4.1). Each of these elements represents a process of conducting research. The roots are the research traditions within particular disciplines as well as the experiences of past researchers from particular fields. These understandings and beliefs grow (as the fruit tree draws nutrients from the soil) to form the basis of the researcher’s ideas in relation to such things as design, methods and forms of analysis.

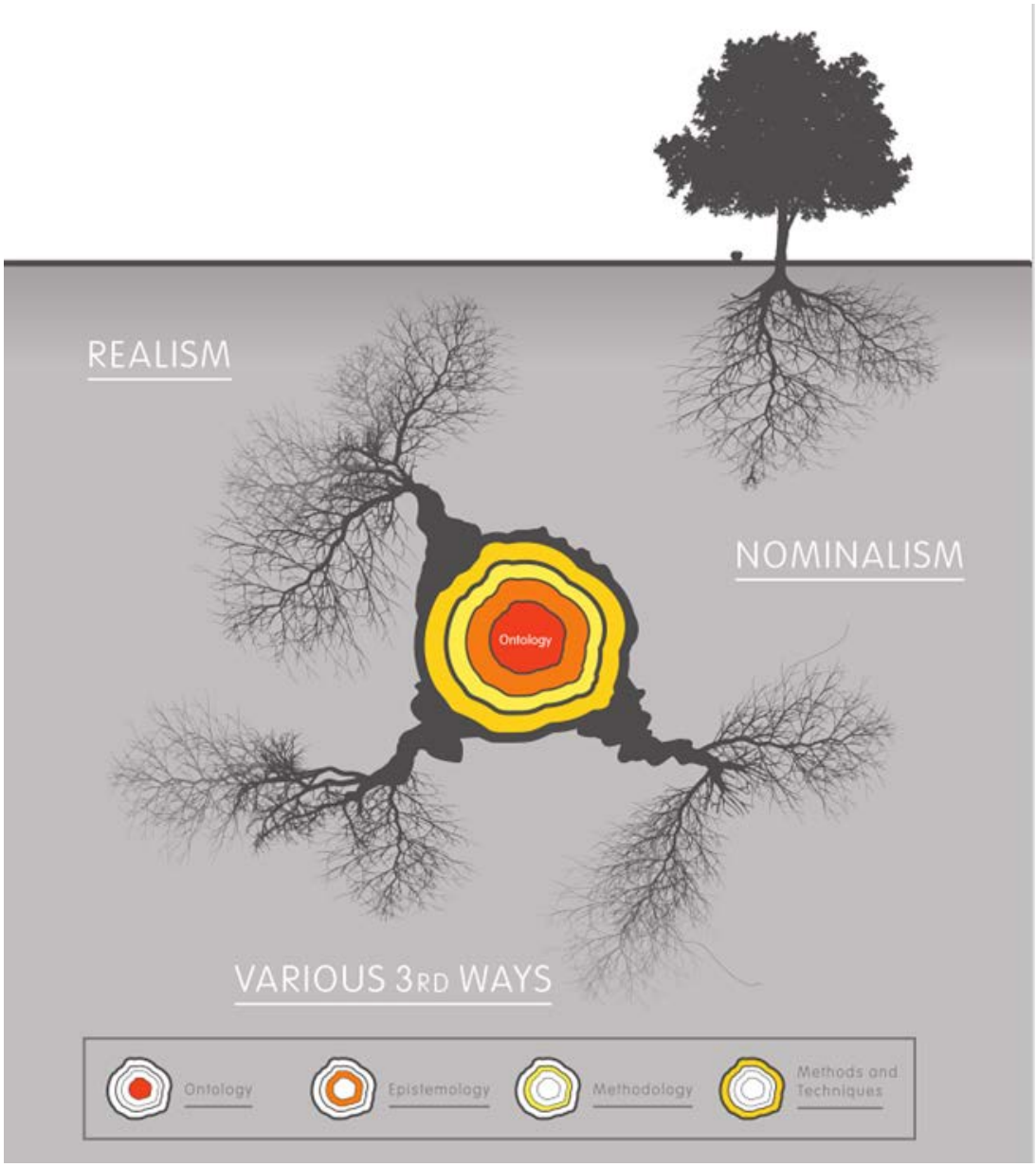


Figure 4.1: How a research process unfolds (Easterby-Smith et al. 2012).

A Tree trunk transports nutrients from roots through branches to leaves and fruits. It also provides strength and shape to a tree. A cross-section of a tree trunk can be used to symbolise the four main features of a research design (see Figure 4.2). The inner-most ring represents ontology - which stands for basic assumptions made by a researcher about the nature of reality. Fleetwood (2005: 197) argues that is “the way we think the world is”. Epistemology is next after the inner-most ring. It represents assumptions about the best ways of inquiring about the nature of the world. Fleetwood (2005: 197) argues that it is “what we think can be known about it. The next

ring represents methodology, the way research techniques and methods are grouped together to provide a coherent picture. Fleetwood (2005: 197) claims that it is “how we think it can be investigated”. From these, there are only two rings to the outer-skin. The inner ring among these (the fourth ring when counted from the centre) represents individual methods and techniques that are used for data collection and analysis. On the overall, methods and techniques used for data collection might be the most visible part of research projects: they underlie research findings, which is represented by the outer ring. Nonetheless, the three inner rings, though hidden, make a critical contribution to the strength, vitality and coherence of a research project.

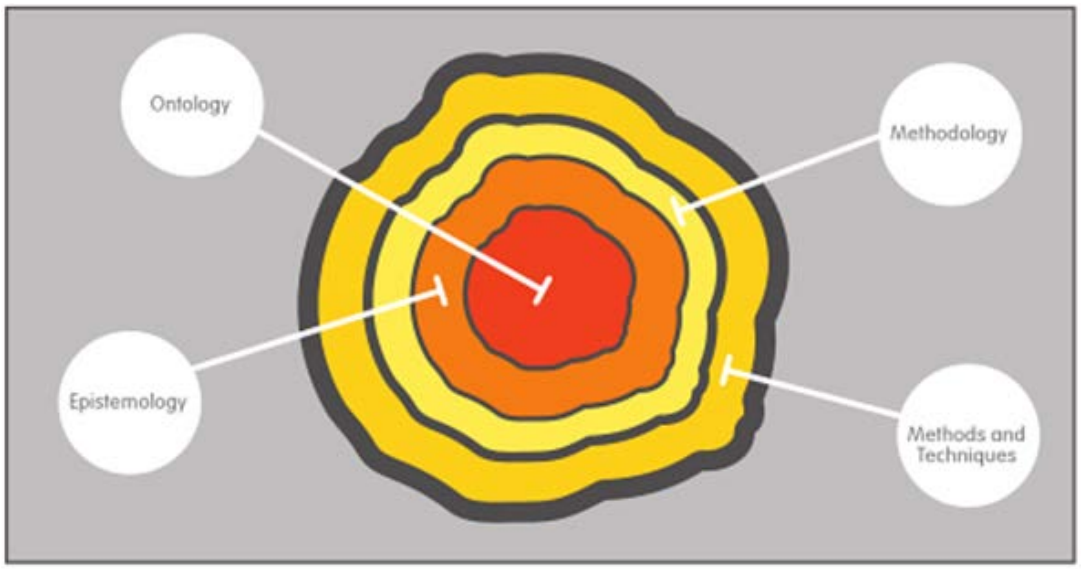


Figure 4.2: The main features of a research design (Easterby-Smith et al., 2012)

Tree branches, leaves and fruits form the tree’s canopy. As leaves collect energy from sunlight, so is data collection and analysis within a research project. Data collection in a research stimulates new ideas and enables the evaluation of existing theories. Easterby-Smith et al. (2012) elicited three main types of data, when viewed through epistemological lenses: positivist, constructionist, or hybrid approaches.

4.3 Research Assumptions and Philosophy

Research assumptions are philosophically grounded. They relate to a view or perception towards reality. The most conventional philosophical terms used to explain philosophical assumption characteristics in research methodology are ontology and epistemology. Grix (2010) recommends that it is beneficial for a researcher to have a sufficient understanding of the two philosophical assumptions in order to successfully undertake research.

Philosophers describe Epistemology as theory of knowledge and critical examination. It tests the context and scope of research validity. According to Easterby-Smith et al. (2012:17), research studies in science and social science may have different positions on the nature of research philosophy, defining the epistemological basis of research enables researchers to explore the real world as they define it. The authors also argue that scientists and social scientists generally draw from different ontological and epistemological assumptions when developing their methodologies for conducting research. They argue that researchers do that consciously and, more often than not, simply follow the traditions passed on by those who trained them. Similarly, social researchers often follow the traditions of their training without dwelling on more fundamental issues. They believe that an awareness of philosophical assumptions can increase the quality of research while at the same time contribute to the creativity of the researchers.

Differentiating the philosophical terms ontology and epistemology is often confusing for researchers. Based on the work of Easterby-Smith et al. (2012), this has been summarised in Table 4.1, giving credence to Figure 4.2.

Table 4.1: Ontology, epistemology, methodology and methods and techniques Adapted from Easterby-Smith et al. (2012: 18).

Ontology	Philosophical assumptions about the nature of reality
Epistemology	A general set of assumption about ways of inquiring into the nature of the world
Methodology	A combination of techniques used to inquire into a specific situation
Methods and Techniques	Individual techniques for data collection, analysis, etc.

4.3.1 Ontology

Ontology according to Silverman (2010:109) is the question of "what reality is like, the basic elements it contains". Ontological debates can be grouped into two categories: realism and relativism. Both can be broken further down into four categories as shown in Table 4.2: realism, internal realism, relativism, and nominalism. Internal realism does accept that scientific laws, once discovered, are absolute and independent of further observations. Relativism goes a stage further: it suggests that scientific laws are not simply out there to be discovered - they are created by people (Easterby-Smith et al., 2012:19).

Table 4.2: The Four Arms of Research Ontology. Adapted from Easterby-Smith et al. (2012:19).

Ontology	Realism	Internal realism	Relativism	Nominalism
Truth	Single truth	Truth exists, but is obscure	There are many 'truths'	There is no truth
Facts	Facts exist and can be revealed	Facts are concrete but cannot be accessed directly	Facts depend on viewpoint of observer	Facts are all human creations

4.3.2 Epistemology

Epistemology is related to the way a researcher sees the nature of a physical and social world. Johnson and Duberley (2000:2-3) define epistemology as 'Study of the criteria by which we can know what does and does not constitute warranted, or scientific, knowledge". Such views of social world issues are often conditioned by the different lenses a researcher has gained through his/her personal and professional background, including education and experiences. Hence, epistemology is a "general set of assumptions about the best ways of inquiring into the nature of the world" (Easterby-Smith et al., 2012: 22). Debates between social scientists have focused on two contrasting views of how social science research should be conducted. These are positivism and social constructionism (see Table 4.3).

- Positivism is the idea that the social world exists externally, and that its properties should be measured through objective methods, rather than being inferred subjectively through sensation, reflection or intuition.
- Social Constructionism is the idea that "reality" is determined by people rather than by objective and external factors.

Table 4.3.Contrasting implications of positivism and social constructionism. Adapted from Easterby-Smith et al. (2012:24)

	Positivism	**Social Constructionism**
The observer	Must be independent	Is part of what is being observed
Human interests	Should be irrelevant	Are the main drivers of science
Explanations	Must demonstrate causality	Aim to increase general understanding of the situation
Thrust of research progress	Hypotheses and deductions	Gathering rich data from which ideas are induced
Concepts	Need to be defined so that they can be measured	Should incorporate stakeholder perspectives
Units of analysis	Should be reduced to simplest terms	May include the complexity of 'whole' situations

Generalisation method	Statistical probability	Theoretical abstraction
Sampling requirement	Large numbers selected randomly	Small numbers of cases chosen for specific reasons

4.3.3 Linking Ontology, Epistemology and Methodology

Easterby-Smith et al. (2012: 25) present a link between epistemology and ontology, with positivism fitting with realist ontologies, and constructionism with nominalism. As summarised in Table 4.4, positivism and constructionism are linked to internal realist and relativist ontologies, while strong positivism and strong constructionism are linked to the realist and nominalist ontologies. They also argue that with the weaker versions of both epistemologies, there are overlaps in these positions and the methodologies that follow from them combine different features of each.

Table 4.4: Methodological implications of different constructs of epistemology Adapted from Easterby-Smith et al. (2012:24)

Ontologies	**Realism**	**Internal Realism**	**Relativism**	**Nominalism**
Epistemology / **Methodology**	Strong Positivism	Positivism	Constructionism	Strong Constructionism
Aims	Discovery	Exposure	Convergence	Invention
Starting Points	Hypotheses	Propositions	Questions	Critique
Design	Experiment	Large surveys; multi-cases	Cases and surveys	Engagement and reflexivity
Data types	Numbers and facts	Numbers and words	Words and numbers	Discourse and experiences
Analysis / interpretation	Verification / falsification	Correlation and regression	Triangulation and comparison	Sense-making understanding
Outcomes	Confirmation of theories	Theory testing and generation	Theory generation	New insights and actions

The design of the research is generally based on the research approaches. There are various research approaches or strategies that are more commonly used in a positivistic paradigm, as illustrated in Table 4.5 which also illustrates the various approaches or strategies that are frequently associated with the interpretive paradigm (Maqsood, 2006)

Table 4.5: Various approaches in interpretive paradigm. Adapted from Galliers (1992: 144–159), and Yin (1994: 3–9)

Research Approach	Research Questions	Key Features
Field observation	How, why	Case studies can either be explanatory, exploratory, or descriptive, in all cases focusing on contemporary phenomenon in real-life settings. They allow the capture and analysis of many variables, but are generally restricted to a defined event or organisation, making generalisation difficult.
Archival Analysis	Who, what, where, how many / much	Based upon the quantitative and qualitative analysis of archival records to describe the incidence or prevalence of a phenomenon, or to be predictive about certain outcomes.
History	How, why	Explanatory studies that deal with operational links over time.
Subjective Argumentative	What	A creative, free-flowing, unstructured approach to theory building that is based upon opinion and speculation. A subjective approach that places considerable emphasis upon the perspective of the researcher, its objective is the creation of new ideas and insights

Action Research	What to do, how, why	This is applied research where there is an attempt to obtain results and benefits of practical value to groups with whom the researcher is allied, while at the same time maintaining a holistic perspective and adding to theoretical knowledge. The underlying philosophy is that the presence of the researcher will change the situation under investigation.
Grounded Theory	What	A structured approach to forming and eliciting theory grounded in data.
Descriptive, Interpretive	What, how, Why	Based upon the philosophy that phenomena are the essence of experience, this form of research seeks to represent reality using an in-depth self-validating process in which presuppositions are continually questioned, and the understanding of the phenomena under study is refined. The approach allows the development of cumulative knowledge by incorporating a thorough review of the literature and past research as well as the current investigation. This encourages additional insight, as well as ensuring that subsequent research builds on past endeavours.

In the works of Miles and Huberman (1994), and Patton (1990) qualitative research approaches are classified according to the purpose of study. This classification is shown in Table 4.6.

Table 4.6: Classification based on the purpose of the study. Adapted from Patton (1990), and Miles and Huberman (1994).

Research Approach	Purpose of research
Ethnography	deals with the culture of a group of people
Phenomenology	deals with the structure and essence of experience of a phenomenon seen in people

Heuristics	deals with a researcher's experience of a phenomenon, in relation to others who also experienced the phenomenon intensely
Ethnomethodology	deals with how people make sense of their everyday activities so as to behave in socially acceptable ways
Symbolic Interactionism	deals with what common set of symbols and understandings have emerged to give meaning to people's interactions
Ecological psychology	deals with how individuals attempt to accomplish their goals through specific behaviours in specific environments
Systems theory	deals with how and why the system functions as a whole
Chaos theory	deals with what is the underlying order, if any, of disorderly phenomenon
Hermeneutics	deals with what are conditions under which a human act took place or a product was produced that makes it possible to interpret its meaning

Research in management has been the subject of many controversies over the years. Researchers have sought to know the most appropriate approaches to management research studies. Many different approaches to research methodology have been developed but there is no one best approach to management research methods. A good approach must be effective for the resolution of a given problem, depending on a number of variables or the nature of the problem. Research methodology is a compromise between options and choices (Gill and Johnson, 1997). A researcher's experience, understanding of research philosophy, personal philosophy and beliefs may also impact on the adoption of a research method (Denzin and Lincoln, 1994). Shih (1998) expands this idea and lists four areas for consideration when deciding on a research method: the philosophical paradigm and goal of the research; the nature of the phenomenon of interest; the level and nature of the research questions; and practical considerations related to the research environment and the efficient use of resources.

The study is ontologically a Relativism. The inner-most ring of this study is to understand how Australian and Chinese PMs manage EPCM projects in sub-Sahara Africa. Assumptions are made in Chapter 3 Section 3.4 developed from the research objective 2 represent the ontology of this study.

The study is epistemologically use a positivistic paradigm approach, which presents the second inner-most ring to understand how Australian and Chinese PMs satisfy project stakeholders, using the epistemology method.

The third inner-most ring which the methodology use a participation observation, survey questionnaires for this PhD study to understand how Australian and Chinese PMs manage EPCM projects in Sub-Sahara Africa. This is methodology.

The research technique and methods grouped together as shown in Figure 4.3 provide a coherent research approach during the study is called methodology and techniques. A multi-method approach (observation, survey questionnaires were used during the study to explore a contemporary phenomenon in real-life settings of how PMs in Australian and Chinese EPCM projects manage stakeholders.

4.4 Multi-method research

Bryman et al. (2008) argue that multi-method research entails the application of two or more sources of data or research methods to the investigation of a research question or to different but highly-linked research questions. Such research is also frequently referred to as mixed methods. The rationale for using multi-method research for this study is because the purpose of the research is to promote a common knowledge produced and used by PMs managing stakeholders' in EPCM projects in sub-Sahara Africa. It provides

in-depth insights that explain how both Australian and Chinese PMs manage stakeholders in EPCM projects in Africa.

The qualitative method was utilised to gather knowledge on how to maintain informal relationships (Guanxi) with stakeholders to contribute to the stakeholder satisfaction. A qualitative method approach ensures that stakeholder management takes place within a broad understanding embedded in EPCM organisations in African project contexts and needs. In the context of this research, the researcher focuses into the understanding of how Australian and Chinese PMs manage stakeholders in EPCM projects. This understanding is then used for the development of a new stakeholder management approach by combining the best practices used by Australian and Chinese PMs. EPCM PMs' practices were closely followed during their daily work in order to understand the methods used in managing stakeholders. The study started by observing project teams and managers doing their day-to-day work, with a keen interest on how they manage the stakeholders of the projects.

During field observation data collection, there were discussions with different stakeholder groups to further develop understanding, as well as to increase the validity of the research. At the start of the field observation, PMs' management approaches and techniques were closely observed. By discussing the observations with the practitioners on the projects, and reflecting on (making sense of) them, best practices were identified, which in turn helped develop a new stakeholder management approach.

Observation was considered essential to the study, particularly in supporting inferences about relationships between project stakeholders and PMs, and between project stakeholders themselves. This research approach is aimed at making sense of a range of stakeholder relationships and processes within stakeholder management.

One objective of this study is to make sense of the complete range of work routines that both the Chinese and Australians observe in managing project stakeholders. Thus, the researcher looked at the skills, processes, and

techniques used by PMs in managing project stakeholders, with a view to use the observations to develop the questionnaires.

The analysis was undertaken in two phase. The qualitative analysis from the field observation and the quantitative analysis from the survey questionnaires (see Section 4.10)

4.5 Ethical considerations

Ethics refers to discussions around what is considered acceptable or justifiable behaviour in the practice of social research. It is concerned with what is considered to be fair ways for the researchers to proceed (Makhanya, 2006:28). Mauther et al. (2002:20) state that ethics is the application of general rules and principles, and the researcher's internalising of moral values. De Voset al. (1998:24), defines ethics as a set of moral principles, which offers behavioural expectations about the most correct conduct towards participants.

Before the author started the field work, Curtin University Human Research Ethics Committee (HREC) provided him with the ethical clearance form C, reference number BE-161-2012.

4.6 Research Design

Multi-method research required a research plan at the beginning of the project to give a clear idea of what happens, when, with whom, and with what tools. This allowed the researcher to consider which resources were required. Research continuously involves observing (and asking and listening) and reflecting on (making sense of) whatever was observed. Informed reflection was continuous throughout the life of this research project. The researcher used the following tools:

- diary note, to observe how stakeholders interact (e.g. how stakeholders communicate with each other and the frequency of the interaction, exchange of information's); and
- Questionnaires.

As shown in Figure 4.3, the research project was divided into four phases. The first phase involved desktop research, which set the project aim and scope. It also involved the review of associated theories on stakeholder management, and helped in selecting the research method for the study (Multi-method research method). In the second phase, data were collected through field observations, this was conducted in Australian and Chinese EPCM companies managing project in sub-Sahara Africa. Overall, the use of observation allowed the researcher to participate in the projects (Tacchi et al., 2003). This helped to explore qualitative data on PMs' interaction with project stakeholders and helped develop the questionnaires.

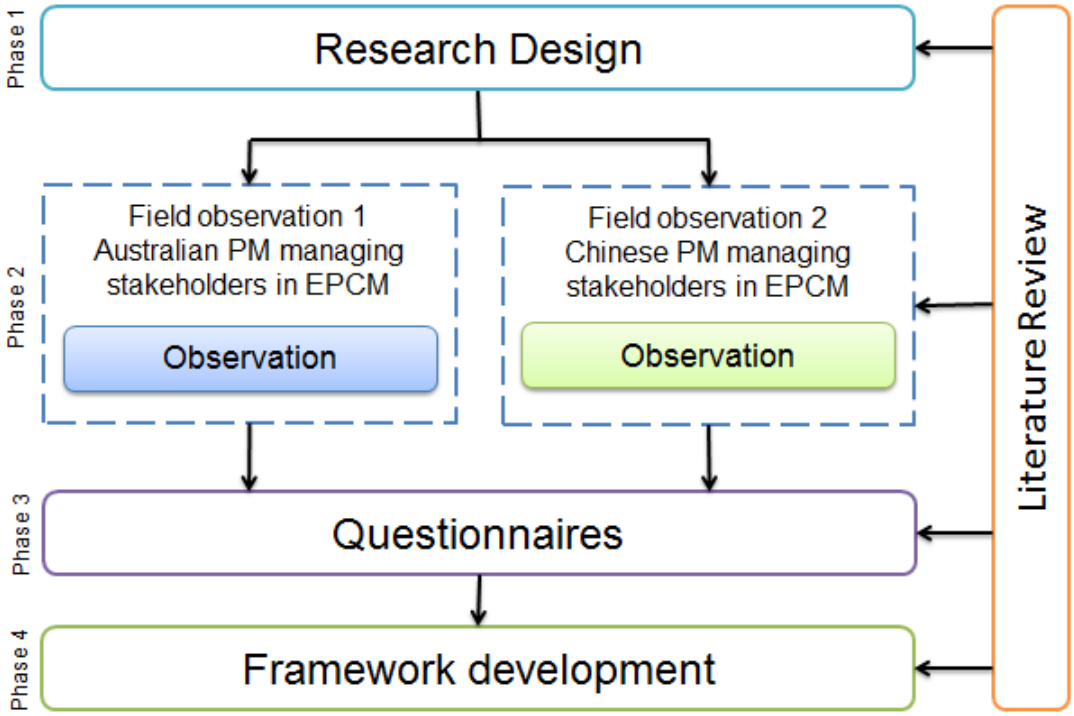


Figure 4.3: Research methodology adopted for this research

At the end of this phase (Phase 2), the description of the stakeholder management approaches used by both Australian and Chinese EPCM PMs became clearer. See Section 4.8, Observation. However, these had to be explored further. A questionnaire was developed from the field observation reported in the Phase 2 of the research. This is shown in Figure 4.3 as Phase 3 of the study. The objective of this research was to measure the importance of the variables presented in Chapter 3 section 3.5 and develop a framework from them. The association of the research goal and the Phase 2 (field observations) allowed the development of the research questionnaires. The questionnaires were administered to both the PMs and stakeholders as presented in Section 4.8. In particular, they helped to explore the styles used by Australian and Chinese PMs on EPCM projects in Africa, as utilised in managing stakeholders. In Phase 4 a new stakeholder management framework (see Chapter 7) was developed to articulate best practices of the Australian and Chinese PMs' approaches to stakeholder management using Independent Samples t Test. Independent Samples t Test is a statistical method used to achieve this. Table 4.7 shows the detailed action plan of the field research.

Table 4.7: Research plan

No	Methods	Time frames	Documentations
1	Meeting with project stakeholders	Every week	Recorded meeting notes and participation observation
2	Collection of data from formal and informal meetings	During the observation participation	Collected related information and identified the main issues
3	Meeting with PMs	Every day	Meeting notes, diary notes and plans drafted
4	Fill in of questionnaires by both PMs and stakeholders.	At the end of the participation	Questionnaires

In the research questionnaires, a Likert scale was used to get an overall measurement regarding how Chinese and Australian PMs manage stakeholders in EPCM projects in Sub-Saharan Africa. Data was collected

from 60 participants from the projects managed by Australian PMs; 60 participants also took part on the projects that were managed by Chinese PMs as presented in Section 4.8. Overall, data was collected in a questionnaire answered by forward-facing the researcher on site, from four countries: Mali, South Africa, Botswana, and Australia.

A standard set of questions was used (see Appendix B), the answers were based on a Likert scale of 1–5 (strongly disagree–strongly agree) and 1–5 (satisfaction–dissatisfaction). The questionnaires were designed in a rating scale because the aim was to measure the satisfaction level of stakeholders. An advantage of Likert scales is that it does not expect a simple yes/no answer from the respondent; rather, it allows for degrees of opinion, or even no opinion at all. The questionnaires' data were analysed in Chapter Six.

4.7 Organisations Selection and their Background

It is important to present the opinion of some participants and the challenges and difficulties confronted early in the study, particularly in negotiating access into the firms. Many researchers find negotiating access into firms for the purpose of data collection challenging (Buchanan et al., in Bryman, 1988). Initially after the author's candidacy was approved, the author met with three managers of the mining companies in Australia with projects in Africa to present the research purpose and negotiate access to the organisations. Surprisingly, one of the managers asked the author what he was going to tell them about Africa that they did not already know. Another said that the Chinese in Africa are not ethical and do not provide jobs to Africans. From this experience, the author realised how difficult and challenging it was going to be studying stakeholders in different environments.

Subsequently, during the 2011 conference "Africa Down Under" in Perth, the author met with the managing directors of various companies (Engineering and Mining companies) implementing projects in Africa to discuss the project

and ask for access to their companies. The managing directors seemed to have agreed with the proposition and gave the author their contact details. However, after the conference, the researcher could not contact them by email or phone. They did not reply to emails and those who promised to call back, did not do so.

The challenges of gaining access to Chinese companies were complex. The big challenge was meeting with Chinese managers in Africa. Their security arrangements did not allow the author to get into the company. The author visited the Chinese embassy in the country to ask for the Chinese companies' contacts. The embassy receptionist directed the author to the Chinese Chamber of Commerce, where the researcher was asked to fill out a form explaining the reason he wanted to get into contact with the companies. The author filed the form, but unfortunately, he was not allowed to have a copy of the firms' details.

The Chinese Chamber of Commerce never made contact with the author. The researcher met with a West African entrepreneur who worked with Chinese companies. He gave him the name of a Chinese company in Mali. The researcher went to the company, described the purpose of the research and how the study was going to be conducted. The company requested the author's details and promised to get back to him. After two days, the researcher received an email and phone call allowing him to conduct the study with certain conditions, the main condition being that he would not be allowed on the site for safety reasons, but could talk with employees at the office.

Nevertheless, the author managed to carefully choose two EPCM projects companies to work with in West Africa for the field observation through a different network, one Australian and one Chinese. The field observation (qualitative nature) of this research permits fewer organisations to be studied where the objective is to develop an understanding of how the PMs of these companies manage project stakeholders so that a best practice process can

be drafted. Both these companies manage EPCM projects in Africa and are devoted to delivering successful projects.

4.7.1 Participants Selection

This research used stakeholder's category defined by Walker (2003) presented in Chapter 2, Section 2.2.2, and Figure2.3 with no fixed viewpoint when identifying them for the study. Field observations aimed to obtain the practical obstacles PMs face when managing project stakeholders in Africa. This helped to develop the questionnaires. The use of field observations is mandatory in both the organisation at all levels ranging from project owners level down to community members. The detail of the participants is illustrated in Table 4.8.

4.8 Research Participants and Instruments

The sample size of this research focused on the main categories of stakeholders defined as stakeholder ecology. The stakeholder ecology details all the stakeholders involved in EPCM projects managed by Australian and Chinese PMs while working on EPCM projects in Africa. The study sample is illustrated in Table 4.8.

Table 4.8: Sample size and profile

Information measured through questionnaires	**No. of EPCM projects Involved**	**No. of Participants in both Australian and Chinese**	**Participants and their roles in the organisation**
Formal approach	5 Australian and 5 Chinese	10	Government officials
Informal approach	5 Australian and 5 Chinese	10	Project owners
Management partaking	5 Australian and 5 Chinese	10	Project sponsors
Frequency of communication	5 Australian and 5 Chinese	10	Project managers

Quality of communication	5 Australian and 5 Chinese	20	Core project team members
	5 Australian and 5 Chinese	20	Project contractors/suppliers
	5 Australian and 5 Chinese	10	Leaders and members of local communities

Observations

The approach adopted during the research observation was to engage with stakeholders in as many different situations as possible. This involved looking at what stakeholders including PMs did (captures by direct observation) as well as what they professed they did (as captured by the interview questions (see Appendix A) and/or the historical documents that were made available to the researcher in the course of the work). It also involved the researcher observing what participants did so that he could report on the real flow of events (see Tacchi et al, 2002 for a guide on this).

Field observation 1 identified problems related to Australian PMs managing stakeholders in EPCM projects in Africa.

Field observation 2 identified problems related to Chinese PMs managing stakeholders in EPCM projects in Africa.

The field observation allowed the author to determine the formality model, participation to stakeholders' activities, communication model, who interacts with whom, understand how stakeholders communicate with each other and how often do they exchange information's. Yin (2009: 18) argues that a field observation is an empirical inquiry about a contemporary phenomenon, set within its real-world context—especially when the boundaries between phenomenon and context are not clearly evident. In relation to stakeholder management, the projects showed disruptions and possible solutions for PMs managing stakeholders in EPCM projects in Africa.

The field observation served to develop survey questionnaires to explore the questions raised in relation of the management approaches of both Australian and Chinese PMs. In addition, the assumptions developed in Chapter 3 were further examined the formality, participation and communication satisfaction level of stakeholders using Likert scale survey questionnaires.

Questionnaire

Likert scale questionnaires (see Appendix A) were extended to 10 companies – five Western and five Chinese. Close-ended questions were used to ensure that the researcher would avoid misunderstanding between the researcher and the person filling in the questionnaire.

To assist respondents in answering the individual questions related to stakeholders' satisfaction, an ordinal scale was developed to capture stakeholders' perception as to the management approaches and satisfaction variables. Adjectives used by Murphy et al. (1974) were modified for the research to describe the extremes of each dimension (Table 4.9)

Table 4.9: Descriptions of the hypothetical variables in the research

Variables	Stakeholders	Measurement
Contractual satisfaction	Suppliers/contractors, team members/workers	Perspective of contractual satisfaction on a Likert scale of 1–5 (strongly disagree–strongly agree)
Partaking satisfaction	Communities, governments, team members/workers	Willingness to participle to project activities/co-operate with stakeholders on a Likert scale of 1–5 (strongly disagree–strongly agree)

Information satisfaction	Suppliers/contractors, community, government, team member	Frequency and quality of communications on Likert scale of 1–5 (strongly disagree–strongly agree)
Stakeholders satisfaction	Overall ecology	Perspective overall satisfaction on a Likert scale of 1–5 (satisfaction-dissatisfaction)

Questionnaire translation

It was necessary to translate the questionnaire from English to French and Chinese. This was because many of the participants spoke only those languages. For instance, Malian community members, suppliers, government officers, project team members, contractors spoke only French. Chinese PMs as well as Chinese workers were only comfortable with Mandarin.

One major limitation is the accuracy of translation. The researcher therefore used a professional translator to translate the questionnaire.

4.9 Measurement model

The formality, participation, and communication of PMs managing EPCM projects in Africa were three important aspects in establishing the impacts of the project to the stakeholders. The satisfaction of stakeholders on EPCM projects relates to a diverse and disparate set of social, economic and environmental impacts of the project to them.

- Formality satisfaction level
- Participation satisfaction level
- Communication satisfaction level

In order to examine the assumptions, the major variable factors of the questionnaires are shown in the table 4.10

Table 4.10: analyses of assumptions variable

Factors	Variables
Formality	
• Formal	Formal approach between: PM and project owner PM and project sponsor PM and project team members PM and project suppliers PM and project contractors
• Informal	Informal approach between project stakeholders: PM and project owner PM and project sponsor PM and project team members PM and project suppliers PM and project contractors
Participation	
• Partaking	Co-operation between: PM and project owner PM and project sponsor PM and project team members PM and project suppliers PM and project contractors PM and government members PM and community members
Communication	
• Information	Communication between PM and: Project owner Project sponsor Project team members Project suppliers Project contractors Community members Government members

Larger EPCM projects impacted on project stakeholders differently. The description of an impact (see Chapter 3 section 3. 5) was used as an indicator to formulate stakeholders' satisfaction with EPCM project management formality, participation, and communication. The outcomes from this step resulted in a formative measurement model. Frequency and quality of communication were reflectively measured using the amount of information received as an indicator. The measurement of communication approach and overall satisfaction was also based on reflective measurement. In the questionnaire, each indicator represented a 5-point Likert scale item measuring the satisfaction of stakeholders with the EPCM project impacts

during the projects. Qualitative research methods complemented with a Likert scale questionnaire have been considered a great combination to measure stakeholders' satisfaction in EPCM projects. This is particularly helpful for satisfaction level of stakeholders in EPCM projects. Having a range of responses will also help easily identify areas of improvement. It is proposed that these indicators ground stakeholder satisfaction and that the combination of the best management approaches from the Chinese and Western countries will develop the new stakeholder management approach in EPCM projects.

4.10 Data Analysis

Field observation was summarised into key words and phrases using an interactive process known as grounded theory. Grounded theory is an interpretative, hermeneutic, qualitative approach to research that allows for an investigation of the many contextual variables (Yin, 1994).The researcher observes and examines the data, and interprets it via forming an impression and reporting the impression in a structured and quantitative form (Hay, 2011).

The questionnaires data were analysed as quantitatively. There are different types of quantitative techniques to analyse data and choosing the right one requires the design of the research questions to match the appropriate analysis (Field, 2009). Three statistical approaches were used in this study: descriptive, independent Samples t Test and analysing differences between groups.

- Descriptive Analysis: descriptive analysis was used to determine the frequency, percentiles, central tendency, and standard score. The descriptive analyses were used in this study to determine the standard score of the association between the participants in terms of their satisfaction with regards to the quality and the approach of their relationship with the project manager.

- Analysing differences between group: the t-tests were used to compare the means score on numerical outcome variable.
- Independent Sample t-test is used to compare the means of the two groups (Australia and Chinese). This is to identify the best practices of Australian and Chinese management approaches.

The research questions of this study were divided into two types. The research objective 2 was designed to be answered with a descriptive statistical analysis. Objective 3how can stakeholder management practices are improved by drawing on the strengths of both Chinese and Australian approaches? To be answered with an Independent Samples t Test.

4.10.1 Qualitative Data Analysis

The data analyses involved analysis of qualitative data. This was done in line with the suggestions of Yin (1994), who proposes three principles of data analysis: firstly, the use of multiple sources for the triangulation of data; secondly, to create a database; and finally to maintain a sequence of evidence. The qualitative data for this study was gathered to allow the qualitative analysis.

- Data collected from the field observations was analysed qualitatively, using a model suggested that the three aspects of qualitative writing defined by Walcott (1994). The most analysis of qualitative data is observer impression. They were analysed without coding and the results were the summaries of the data. The strength of the model is that it summarised all the data a number of times. The drawback of this is that the final conclusions are several times removed from the underlying data. To keep the underlying data, the researcher kept all the statement of respondents in the summaries.
- The outcomes of the qualitative analyses were extended to a questionnaire survey. Participants were asked to rate the variable as sourced from the interview, on a Likert scale. The implication of this is that the data is ordinal, requiring non-parametric correlation methods.

As suggested by Field (2009), there are different approaches to this, including assumption-free test. Assumption-free test makes a smaller number of assumptions about the type of data used. These tests work mostly on the principle of ranking the data. The lowest score is have a rank of 1, the highest score have a rank of 2, and so on. A non-parametric statistical procedure is used for this study because it is based on fewer assumptions.

- Following Independent Sample t-test was used to determine the best approaches of stakeholder management in EPCM projects in Africa from both Australian and Chinese management approaches.

4.10.2 Quantitative Analysis

The quantitative data were gathered for exploring the research questions, questionnaires were ministering to five Australian and Chinese EPCM companies involved in projects in three sub-Sahara African countries because of their richness in mineral and resources (Mali, Botswana, and South Africa). Mega EPCM projects are mostly known for their use in the mining industry and large infrastructure projects. These companies are often an integral part in getting a project from exploration to operation, or from design to construction. The sub-Sahara Africa regional setting is important, as many companies are aggressive in business opportunities in Africa. This is not all surprising, given that most African countries are only making their way to development now. The number of main projects with Australian and Chinese EPCM firms was narrowed down to 10 for the sake of the study (those firms involved in important mega mining industry and large infrastructure projects in Africa).

A set of questionnaires was asked to stakeholders' within10 of these companies (5 Australian and 5 Chinese) see Table 4.8. All interviews were conducted by the author, with all interviewees being with the general and direct participants of the underlying project. Interviews took place from February 2013 to April 2014 three Africans countries.

The questionnaires were administrated within the three countries, at the sites of these projects as well as at the headquarters of the EPCM firms, depending on the interviewees. The interviewees worked with Australian and Chinese mining and infrastructure engineering companies involved in EPCM projects. Within these three African countries.

The questionnaires focused on a collaboration between the PMs and the stakeholders identified in Section 4.6, posing sets of questions regarding the various structures, formal approaches, informal approaches, participation to stakeholder activities, frequency of communication and quality of communication. In terms of formal and informal (formality) approaches, a certain number of questions were used to explore different arrangement approaches used, the level of formality involved, and the mechanisms by which collaboration and interaction are established and developed. Regarding participation, a main line of inquiry was the extent to which PM partaking to stakeholders' activities. On the subject of Communication, the mains examinations were the frequency and quality of communication. Most importantly, questions regarding satisfaction explored the level of satisfaction of both the project manager in regard of the consistency of his/her interaction with his partners, whereas the satisfaction of the rest of the stakeholders was measured according to the coherence of his/her relationship with the project manager.

The researcher did not thoroughly explore the challenges to collaboration or the obstacles involved and how competing interests are overcome. The reason for this is that these issues constitute an important part of the research objectives, as the intention is to go through the ups and downs of the collaboration between the PM and the stakeholders with regards to the management approach in order to identify the best practices of these approaches. The research proposes an alternative and efficient management approach. All the project stakeholders listed in Section 4.5weresubdivided into small groups and a specific set of questionnaires were set to capture each aspect of information required.

IMB-SPSS computer package analysis is used to explore the strength of the association and dependency between the level of satisfaction of each of these groups with the manager/formality, participation, communication and also between the level of satisfaction of the manager in his/her relationship with each of the groups. With this regard, the descriptive statistical analysis is of great importance and these associations within each group had been explored separately. The sampling method used to select these projects allowed the author for generalisation of the findings. The questionnaires are statistically analysed to identify and document divergent results.

4.11 The role of the researcher

The main instrument in qualitative studies is the researcher (Henning, 2004: 6). Kilbourn (2006: 9) suggests that it is important to be aware of one's subjective self and the role that this subjective self plays in research, since awareness can be considered more realistic than assumptions that subjectivity has been completely removed.

The researcher was aware of the qualities that enhanced his research and those that could have skewed his interpretation of data if he were not aware of them. The author was aware of his subjective self and personal history which includes his many years in the field of work. Kilbourn (2006: 9) elaborates that the way in which people see and respond to a situation, and how they interpret what they see will bear their own signatures. This unique signature should not be seen as a bias but a way of providing individuality to a situation. In this study, the researcher realised that the language and active listening skills he had previously developed in his leadership roles were very applicable to the questionnaires settings.

4.12 Reliability and Validity

Reliability, according to the definition offered by Hussey and Hussey (1997:57), is concerned with the findings of the research, and is one aspect of the credibility of the findings. Reliability is concerned with whether the evidence and the conclusions drawn stand up to the closest scrutiny.

Research validity generally covers the entire experimental model and establishes whether the results obtained meet all of the requirements of the scientific research method. Seliger and Shohamy (1989:95) argue that, “any research can be affected by different kinds of factors which, while extraneous to the concerns of the research, can invalidate the findings”. Therefore, a researcher must control all possible factors that threaten the research’s validity. Authors Seliger and Shohamy present two different research validities: these are internal and external validity. Internal validity is affected by flaws within the study itself such as not controlling some of the major variables (a design problem), or problems with the research instrument (a data collection problem). Seliger and Shohamy (1989:95) claim that "findings can be said to be internally invalid because they may have been affected by factors other than those thought to have caused them, or because the interpretation of the data by the researcher is not clearly supportable”. Authors Seliger and Shohamy also argue that external validity is the extent to which findings can be comprehensively generalised to a larger group or other contexts. If the study lacks external validity, the findings cannot be applied to contexts other than the one in which it was carried out on it. “Findings can be said to be externally invalid because [they] cannot be extended or applied to contexts outside those in which the research took place” (Seliger and Shohamy, 1989:95).

The accuracy of the measurement depends on the consistency of the measurement. In the field observations and the survey of this study, the questionnaires were developed anonymously to protect the respondents and to create a high level of confidence in the participants so that the answers of the questionnaires were reliable. McLeod (2008) argues that when the

questionnaires are self-administered to the respondents, it reduces the social pressure, and also reduces social desirability bias. Paulhus (1984) found that more desirable personality characteristics were reported when people were asked to write their names, addresses, and telephone numbers on their questionnaire than when they are told not to put identifying information on the questionnaire. The same questionnaire was distributed to all the corresponding stakeholders from the Australian and Chinese projects, to ensure reliability. Quantitative methods focus on the accuracy of the measurement and the ability to be able to repeat the experiment reliably, there is always the danger that the validity would be very low as a result. Therefore, the reliability can be high when the validity is below.

For this study, the following reliability and validity were used:

- Reliability of the field observations. The researcher used the ethical approaches which explain to the respondents briefly but clearly the study objectives of the research. The interviewees were assured that what they said would be kept confidential and non-attributable, if they so desire. Close relationships were developed between the researcher and the respondents and the researcher was careful not to be intrusive or disruptive. Respondents' opinions and viewpoints were respected, even if the research strongly disagreed with them. This helped build trust and the respondents to provide the researcher with reliable information's and answers.
- Reliability of the questionnaires. The questionnaires were developed anonymously and self-administered to protect the respondents. Cronbach's Alpha coefficients of reliability were used to demand the internal consistency of the questionnaires used to collect the data in the Australian and Chinese EPCM projects.

During the research, the researcher had to explain questions to the respondents in order for them to better understand before they answered. However, the data gathered was used to confirm consistency. Inter-item correlation was used in order to determine the reliability of the items

contained in the questionnaires administer to both Australian and Chinese stakeholders as shown in Table 4.11 and 4.12 respectively.

Reliability of the Australian Questionnaires

Table 4.11: Reliability of the Australian Questionnaires

Questionnaire	Cronbach's Alpha	N of Items	Internal consistency
Project manager	0.744	74	Acceptable
Community member	0.948	16	Excellent
Project owner	0.760	30	Acceptable
Project sponsor	0.833	30	Good
Supplier	0.811	17	Good
Project team member	0.797	19	Acceptable
Contractor	0.760	17	Acceptable
Government member	0.720	16	Acceptable

The Cronbach's Alpha coefficients of reliability for the questionnaires used to collect data in the Australian projects are displayed in Table 4.12 above. All the questionnaires have a Cronbach Alpha coefficient above 0.70. This shows that the questionnaires for this study are consistent and measure what they are supposed to measure adequately. Scientifically, the Cronbach Alpha coefficient of a questionnaire should be at least 0.70. (DeVillis, 2003).The questionnaire with an alpha coefficient greater or equal to 0.70 will almost yield the same results in different occasions and will produce similar observations when administered on different assertions. Cronbach's Alpha coefficients of internal consistency shows that all the questionnaires are at least 70% accurate and have less than 30% measurement error on the items. Therefore the questionnaires in this study have very high internal consistency. Since reliability is one of the prerequisites for validity, other things being equal the study findings are valid.

Reliability of the Chinese Questionnaires

Table 4.12: Reliability of the Chinese Questionnaires

Questionnaire	Cronbach's Alpha	N of Items	Internal consistency
Project manager	0.776	74	Acceptable
Community member	0.751	16	Acceptable
Project owner	0.738	30	Acceptable
Project sponsor	0.822	30	Good
Supplier	0.792	17	Acceptable
Project team member	0.952	19	Excellent
Contractor	0.748	17	Acceptable
Government member	0.724	16	Acceptable

The Cronbach's Alpha coefficients of reliability for the questionnaires used to collect data in the Chinese projects are displayed in Table 4.13 above. All the questionnaires have a Cronbach Alpha coefficient above 0.70. This shows that the questionnaires for the Chinese projects are consistent and measure what they are supposed to measure adequately. Scientifically, the Cronbach Alpha coefficient of a questionnaire should be at least 0.70. As presented in the Australian project analysis. The questionnaires are at least 70% accurate and have less than 30% measurement error on the items. Therefore the questionnaires in the Chinese projects have very high internal consistency. Since reliability is one of the prerequisites for validity, other things being equal the study findings are valid.

- Validity of the field observation, the field observations were face validity.
- Validity of Independent Samples t Test, Independent Samples t Test is used to predict the stakeholders' satisfaction in relationships with the formality, participation and communication satisfaction level of stakeholders involved in EPCM projects in Africa, managed by both Australian and Chinese PMs. Using data sets from each Australian and Chinese EPCM project companies, the validity of the Independent Samples t Test of the data sets are faithful at 0.05 significance level.

- External validity, the external validity was done by some stakeholders who participated to the questionnaires. The new framework was sent to them for comments.

4.13 Development of a new stakeholder management approach

During this stage, the study used Independent Sample T-test analysis to determine which approaches is best practices of Australian and Chinese PMs managing EPCM project stakeholders. Independent Sample T-test is a statistical technique that compares means for two groups of case. In this cases, Australian and Chinese project managers managing EPCM projects in Africa.

Sig (2-tailed) value or P-value is used to understand if the two management approaches Means are statistically different.

If the Sig (2-tailed) value is greater than 0.05, there is no statistically significant difference between the pair.

If the Sig (2-tailed) value is less or equal to 0.05, there it means that p-value has a meaningful addition to the model. And if p-value is statistically significant difference between the pair.

4.14 Summary

This chapter explains the research method and design in order to clarify the choice of research method and to provide a rationale for the choice. It begins with a basic background of the philosophical descriptors of management research, research assumptions, the research approach, research strategy, and design. From the nature of philosophical questions asked, the voyage of discovery aiming to understand how Australian and Chinese PMs manage EPCM projects in Africa, the clarify assumptions related to the questions, the

exploration of the interrelationship between ontological, epistemological and methodological has leaded to the researcher techniques and methods used. The research techniques and methods used for this study were presented as multi-method research approaches. Multi-method research was presented as the effective and appropriate approach for the resolution of the problem posed for this study. The research objective or question was investigated using two sources of data collection (field observation research and semi-structured questionnaire). The author next explains how the research was designed, how the questionnaire was developed and administered and how data collection was used. The data collection describes how the questionnaires were administered in EPCM projects in Mali, South Africa, and Botswana. The author then explains how those collected data were analysed and how it leads to the development of the new stakeholder management approach.

Chapter Four presented the procedures used for the research methodology. The next chapter describes the field observation I and II of the EPCM project stakeholder management in Mali, Africa, in order to explore the different approaches (Chinese and Australian) and different stakeholders' satisfaction in EPCM projects in Africa.

Chapter 5

Australian project managers managing EPCM projects in Africa

5.1 Introduction

This chapter presents the results from the Australian PMs managing stakeholders in EPCM projects in Africa. Objectives 2a of the research is to explore and identify the strength of Australian PMs' management approaches to stakeholder management in EPCM projects in Africa. To achieve this objective, the study requires an empirical inquiry into how PMs manage stakeholders in EPCM projects in Africa. This is to learn about real-world management approaches and its meaning to Australian PMs. The most appropriate empirical inquiry considered data to be sourced from field observation and questionnaires as presented in Chapter 4.The chapter finishes with a summary of the findings.

A contract is an agreement having a lawful object entered into willingly by two or more parties, each of whom intends to create one or more legal obligations between them. The elements of a contract are "offer" and "acceptance" by "competent persons" having legal capacities who exchange "consideration" to create "mutuality of obligation" (Walmsley, 2013)
Before any EPCM project is started, there is generally a contract. EPCM projects have four common phases as described in Chapter 2 Section 2.2.1. The involvement of stakeholders is important during all the phases.

5.2 Field observation1: Australian Project Manager in stakeholder management

The researcher followed an Australian mining company that was building a gold processing plant in Mali. The mining firm did not follow the traditional management style of outsourcing all the work to a consulting company to

manage the EPCM part of the project on its behalf. Due to the financial constraints and lower price of gold, they decided to design and construct the project themselves.

The project entailed the construction of a gold processing plant project that would produce 17.4 Mt at 2.6 g/t for 1,463 kilo ounce gold. The project was located in Mali, one of the gold-rich West African countries. Mining and infrastructure development was expected to occur within the region's bounds. The region first experienced the temporary impact of construction (increased numbers of transient workers, large amounts of capital expenditure, etc.). It is expected that they will experience the long-term effects of permanent mining activity, a number of which are associated with a potential increase in the permanent population. For this field observation the temporary impact of construction (infrastructure development) was the focus as the long-term effects of a permanent mining population is not an EPCM project activity. The impact of stakeholders is different on EPCM projects and mining operations.

The field observation identified the following points as factors that influenced Australian PMs managing stakeholders in the gold processing plant construction project (EPCM project in Africa): first, relational employee conflicts, the conflicts were: personality clash between the country manager and the project manager. According to Kazimoto (2013:18), workplace conflicts are "when people's ideas, decisions or actions relating directly to the job are in opposition, or when two people just don't get along. Passive aggressive behaviour is a common response from workers and managers and is particularly noxious to team unity and productivity (De Angelis 2008). In the case of this study, the country manager wanted to sabotage the PM by creating an argumentative project environment. Also, the responsibilities of the country manager and project manager were not clearly defined. The Australian PM would provide poor information. The field observation further identified the following as elements of best management approach from Australian PMs managing stakeholders in EPCM projects in Mali according

to the project team members, project sponsor, Sustainable Development (SD) manager: project governance; relationship between PM and project sponsor; Project Manager open to communicate with the stakeholders; weekly meetings to inform the project team members; monthly report to project sponsor; Project Manager partaking in the community meetings and ceremonies; communities and government members being informed of the project.

The Author followed the Project Construction Manager, working on site and reporting to the Project Director. Their Project Organisation Chart is shown in Figure 5.3.

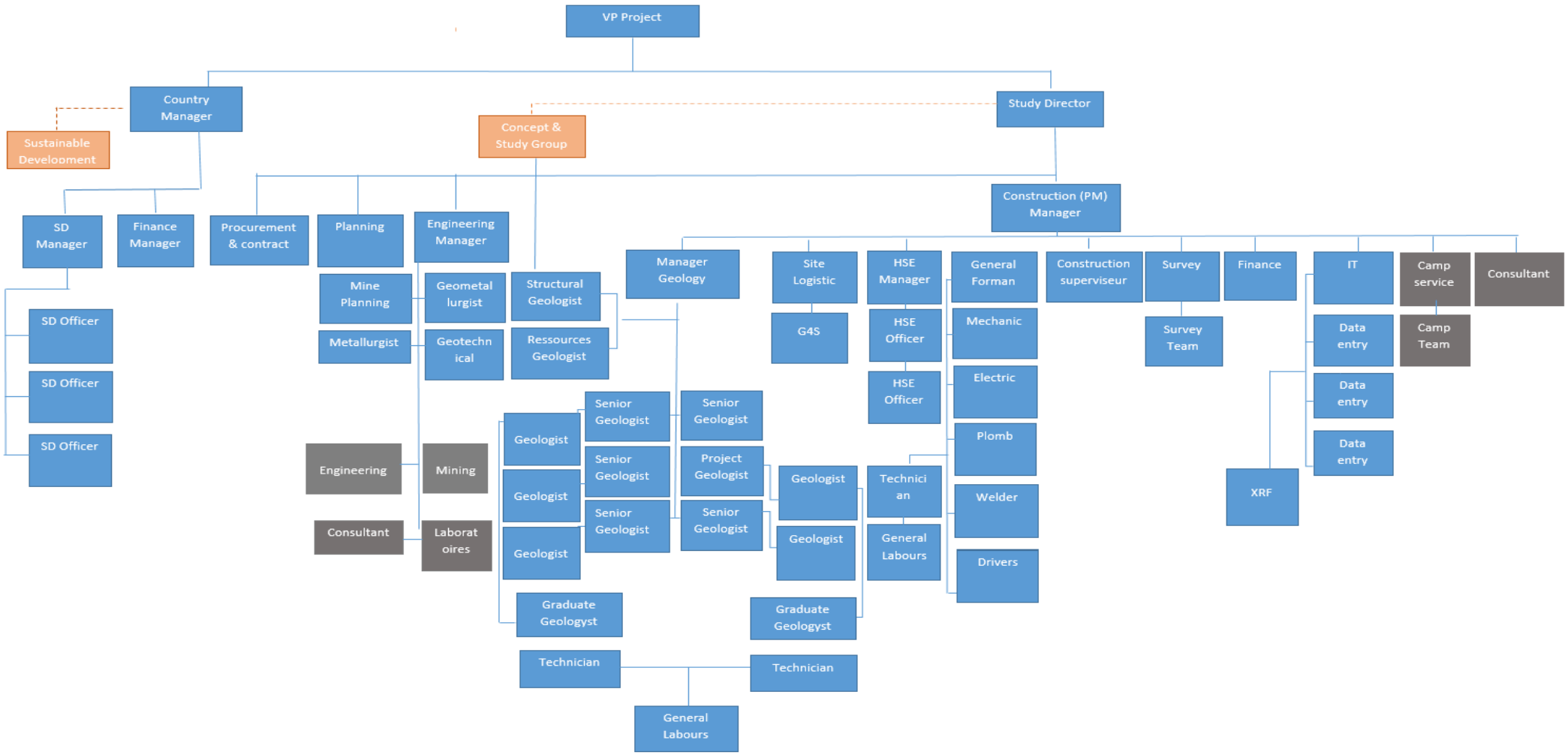


Figure 5.1 Australian project organisations Chart of one Australian company (field study)

5.2.1 Observation of Australian Project Manager, Managing stakeholders in Mali

Joining the company as a researcher following the Project Construction Manager, the author observes how Australian Project Manager managed project stakeholders – in this case the Project Construction Manager in Mali. This research started by observing what the Project Manager does when managing the project in Mali. There was a separation in the stakeholder management responsibility. As it is shown in Figure 5.3 (The Organogram), the Australian company has a Sustainable Development (SD) team (with a Vice President in the organisation) to manage community and the government. In this project, the SD manager was based on site, and reported directly to the Country Manager. According to the Australian company document, Sustainable Development refers to a model of human development in which resource use aims to meet human needs while ensuring the sustainability of natural systems and the environment. This is so these needs can be met in the present, but also for generations to come. In general, the term 'sustainable development' was used by the Brundtland Commission, which coined what has become the most often-quoted definition of sustainable development: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations, 1987; Smith and Rees, 1998).

In the organisation, the SD team was managed by the Country Manager and their responsibility was mainly to manage the community and the government. The Country Manager reported directly to the Vice President of the projects. The structure was not working in terms of the experience and the expectation of the Country Manager. Unlike what was observed in the Malian project managed by Chinese project manager (Section 5.3), the government offered to manage the community and other government offices. However, this was turned down by the Vice President of Projects as it was a role of the SD Manager and Country Manager.

The author's first experience was that the Country Manager wanted to interfere with the project manager job. That was due to the lack of job description and the class structure in the Malian culture. In Mali, it is expected that the young person has respect in relation to the older person. Most of the time, people do not make a difference between community social culture and workplace culture. The older manager will expect the younger one to respect the older even though they are at the same organisational level. This interference created what is known as employee conflicts among African managers. Everyone wants to show how important he or she is in the company. With the team leadership of the company being selected with this agenda, conflict is embedded within the organisation. With the surrounded conflicted environment, the project team was not coherent, even with an organisation chart. Relational employee conflicts are divided into two: substantive conflict and emotional conflict – both conflicts are related (De Drue and Weingart, 2003; Schermerhorn et al., 2003). Substantive conflict involves disagreements among group members about the content of the tasks being performed or the performance itself (DeChurch and Marks, 2001; Jehn, 1995). This type of conflict occurs when two or more social entities disagree on the recognition and solution to a task, including differences in viewpoints, ideas, and opinions (Jehn, 1995; Rahim, 2002). Affective conflict deals with interpersonal relationships or incompatibilities not directly related to achieving the group's function (Behfar et al., 2008; Amason, 1996; Guetzhow and Gyro, 1954; Jehn, 1992; Pinkley, 1990; Priem and Price, 1991). Australian firms in Africa select an African manager to manage Engineering companies for political reasons than experience and capability. For example, the company needs to obtain a mining permit; therefore, choosing an ex-politician to be a country manager was a strategy. Researchers like Schermerhorn et al. (2003) argue that conflict occurs whenever disagreements exist in a social situation. Freeman (1984) claims that the understanding and management of conflicts and coalitions among stakeholders is an important step for stakeholder management.

The Project Manager was responsible for every decision made when managing project stakeholders. In the Australian EPCM project setting, it

was found that there were conflicts within the project team due to the non-existence of the organisational responsibility even though there had been an Organisation Chart. The company has to give power to the Country Manager due to the expectation they have from him (to help the company obtain the mining license). Project manager decision making is often the result of the ways in which information is presented and choices are constructed before him (Amir and Lobel, 2009). With the incoherence of the team due to power struggles, African managers make the management of project stakeholders difficult for PMs due to the individual's motivations interacting with emotions. The African SD manager wanted the firm to give everything to the local community, as if it was an NGO. This was due to the SD manager's emotions. Managing stakeholders in large projects is susceptible to biases and flawed decision making. PMs are individuals who manage a group of people from different races, cultures, and social groups, with unique expectations and behaviours. To manage complex projects, stakeholders and project leaders have to understand the limits of human rationality. A study by Freeman (1999) claims that PMs should know the potential conflicts stemming from divergent interests. Yang et al. (2010) summarises the Freeman (1984) strategy model saying that PMs should also look at the possible coalitions among stakeholders. He believes the groups who share objectives, stakeholders or interests about the project, can be more likely to form coalitions. Understanding cultural differences can help improve individual and group behaviour.

Attitude of the Project Manager (PM): During the time the author followed the Australian Project Manager in Africa, attitudes from an Australian (non-African) manager was observed the following positive: The first Australian Project manager was very calm. When the author asked a question regarding stakeholder management, the response was that in Mali things are done differently. Secondly, PM was very positive, even when things were bad. He participated in community activities and ceremonies. PM successfully convinced the Project Board to develop a training centre to train local community members to provide them with work in the construction of

the project. He also created sustainable work for the community in a brick-making project and, an aggregate production project.

Finally, after discussing this with the Australian Project Manager, Australian Project Manager was open to team building. He was forward-thinking, trying to understand how to co-ordinate project team members to work together in harmony. However, his thinking was not implemented within the whole project team as the project team was divided into two as seen in the Organogram. The Vice President's project was responsible for harmonising the high level project team and that was the source of structural conflict because he did not want to disregard the Country Manager. The country manager was important for maintaining the relationship between the project and the government.

Australian project firms come together with their experiences and project teams to complete the project. They have corporate social responsibility policies in place to try to ensure the integration of other stakeholders in the project. Having corporate social responsibility policies does not mean implementing them. In addition, corporate social responsibility is not a stakeholder management plan. At the time of the research, the process and procedure were not implemented because the Project Manager was new to the company. The Project Manager was recruited to deliver the project. He was on a fixed term contract. The gap between organisation and project is too wide due to the contractual arrangements the company has with the project manager and the power struggle between African managers. African managers fail to maintain the organisation's corporate social responsibility due to power struggles. The attitude of Africans is that "I am the manager here and everyone has to hear from me". This pushes the organisation away from the project.

Figure 5.4 below shows the stakeholder management approach in the Australian EPCM company, developed from the literature review and field observation in Mali. The interface with project organisation and project is seen as operating under two forces; push and pull forces arising from the organisation portrayed by dotted arrows. These show either practically none

or a pull force from the organisation relating to a desire for obtaining support in stakeholder management. Participation from the organisation to the project is shown as a dotted arrow. The distance between organisation and project highlights the gap that exists between formality, participation and communication within organisation and practical implementation of stakeholder management. The communication and participation line from the project manager and the rest of project stakeholders exist.

Figure 5.4 illustrations the gap between the organisation and the project in the form of prototypical that allows a clear understanding and visualisation.

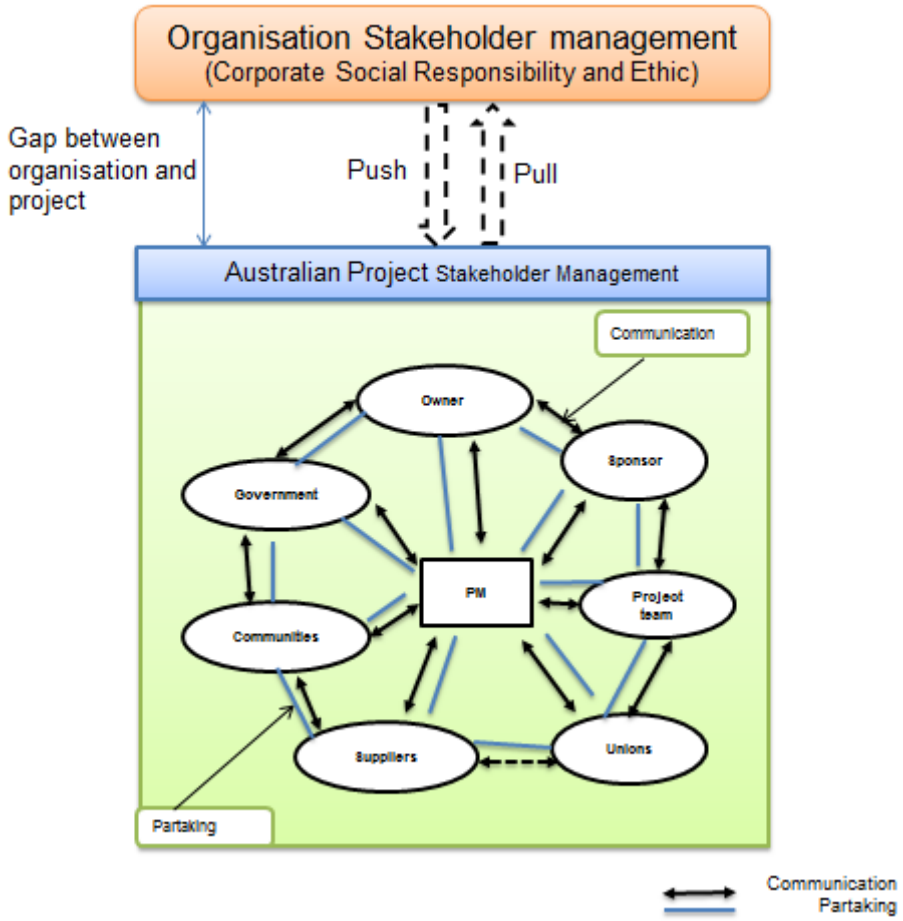


Figure 5.2 Australian stakeholder management approach

As described in Chapter 2, the stakeholder management literature has spent much time developing increasingly effective methodologies for managing stakeholders' processes. In particular, the author saw firsthand the

educational value of project stakeholder management in the scientific part of stakeholder theory. Despite this, PMs are not willing to spend time identifying stakeholders and developing formal communication channels with them. One of the primary reasons for this lack of stakeholder identification is that PMs managing EPCM projects in Africa are not well educated on stakeholder management value creation. Walker et al. (2008) argue that organisation must encourage in-house staff to participate in advanced academic study and research degrees or to collaborate in mutually beneficial research with mature doctoral students from outside the organisation. “They stress that the ability to gain advantage from reflection is highly dependent upon the maturity level of an organisation’s learning-culture” (Walker et al., 2008: 2).

The art of stakeholder theory presented in Chapter 3 is not examined in the stakeholder management in the EPCM project’s environment. Stakeholder management failures include disconnection between the project firms and project(s) and stakeholders, lack of ownership, and cultural issues. Australian organisations have African managers in positions for the wrong purpose.

5.2.2 Investigating Australian Project manager, managing EPCM projects in Africa

There are a lot of places to start thinking about stakeholder management. This research looked at the management approach of PMs when managing stakeholders. Hartmann and Hietbrink (2013) have looked at the expectations, experiences and satisfaction of stakeholders in construction. Every stakeholder has something to say about the EPCM project management process and the project manager’s style. However, responding to all these critics is not possible for a project manager. But a response to the critics that gives new management knowledge and ideas is essential to the improvement of the project management body of knowledge.

It is important to know from the project manager what he thinks his role or responsibility is when managing a project. The author started the study by asking the project manager about his responsibilities.

Project manager: an ideal project manager is a single person wearing multiple hats. He must have managerial and technical skills in various disciplines and is connected to the role played by the “Orchestra Conductor”. The Conductor must know how each musician plays his music to be able to guide, insure, harmonise, co-ordinate and synchronise the team (Wadalkar and Pimplikar, 2012 in Andrew, 1996).

Project manager responsibility: the Australian project manager said that “his primary responsibility is to manage project scope, task, and budget”. The Australian project manager believed that his responsibility is to deliver the project on time, scope and budget because he is bound by the contract he signed with the company. The contract the Australian project manager signs allow him to focus on short-term solutions, bound and connected to rules and laws as his contract was a 3 year contract. The legal contract is the key to preparing and making business deals (Stawicki et al., 2007).It was noticed that the project manager interacts enough with other stakeholders of the project and delegate responsibilities to others. Each is somehow informed about the project and is involved in it. It is observed also that in the Australian project the contractor is also involved in the project.

Project Owner: the project owner for the project was a steering committee of the company. The steering committee was the project champion; they assisted in securing funding, approving the project deliverables, helping resolve issues and policy decisions, approving scope changes, and providing direction and guidance for the project. The project owner did not know who the PM was individually, and he did not communicate with the project manager. He did not know all the project stakeholders, but had relationships with some of them, for example, the project sponsor. The Project owner did not have any expectations from the project manager except the delivery of the project. The project owner’s project success was to achieve the expected

outcome in a safely manner. Australian PMs' communicate with the Project owner at all stages of the project by providing monthly reports, and encourage the project owner to be involved in all procedures of the project, including additional budget, and inform and request approval from the client.

Project Sponsor or Project Director: the Australian project sponsor is responsible for securing spending authority and resources for the project. The Project Sponsor's primary responsibility is to manage the outcome of the project. He acts as a vocal and visible champion, legitimises the project's goals and objectives, keeps abreast of major project activities, and is a decision-maker for the project (Walker et al., 2008). In the case of this research, the project sponsor was the Project Director. He has a good relationship with the project manager; he was satisfied with the project manager. He communicated with the PM mainly by email due to the distance of the project with the main office where he was based. The project sponsor has good knowledge about the project stakeholders. However, the communities and the government were managed by the country manager as shown the project Organogram. The project's success is measured by the realization of the expected outcomes in a safely manner.

Project team members (Workers): the Project Team Members are responsible for executing tasks and producing deliverables as outlined in the Project Plan and directed by the Project Manager. Some Project Team members serve as Team Leaders, providing tasks and technical leadership, and maintaining a portion of the project plan (Walker et al., 2008). In the case of this research, some project team members have good relationships and communicate with the project manager. They were informed of the project evolution on a weekly basis at the weekly meeting. Based on the observation, they seem satisfied with the PM formality, participation and communication. However, the one with informal contract were not satisfied with the formality. As Carnegie (1936) said, everybody would never be satisfied with the management approach.

In the Australian project's setting, the majority of the workers had a permanent or short-term contract. The casual workers had no contracts.

During the meeting with them, contracts were requested. This resulted in a lot of discussions between the management and the casual workers, who have being working on the project for a long time.

Project contractors and suppliers: the project supplies according to Byatt (2001) cover third parties (suppliers, vendors, contractors, subcontractors, consultants) who provide a product and/or are contracted to perform the agreed works on a project. The Project manager has to embody the philosophy he wants his team to adopt with suppliers and vendors – that sets the tone for success. The contractors communicated openly with the PM. They were informed of the project on a weekly basis during the weekly meeting; and most evenings, they had a drink with the PM and the rest of the team members. Australian project manager's approach in managing contractors is to instruct contractors to submit a report regarding, work activities, work permit/shop drawing and approval status with local authority. They instruct consultant to submit design stages report during process at design concept, detail design. Australian PMs identify contractors as stakeholders during the planning stage. Finally the fourth method is to guide contractors regarding unclear procedure/processing and process payment of contractors immediately after each stage of the project are completed.

Communities and Government:the communities in large projects are usually small, larger or more extended communities such as a local community and independent concerned individuals or groups who feel that they will be impacted by the project and its outcomes, invisible stakeholders who engage with the project team in delivering the ultimate project benefit, but whose cooperation and support is vital for project success, and also the knowledge network that interacts with the project delivery team in a variety of ways (Walker et al., 2008). The project manager was taking part in the community meeting regarding the project and sometimes in the community ceremonies. They communicated with the project through the community officer of the project (SD). The communities and government members were informed of the project by the project community manager (SD

team).Australian project manager's approach to managing Local Authority (LA) plays the key role in dealing with them, All submissions comply with the requirement/law which was enforced by the LA and to obtain statutory approvals from the LA before any start of work at site. Therefore, Identifying local authority as stakeholder by project location, and simple tasks like site visits, are also important. Australian project manager communicates with LA about project implementation at all stages of the project through the SD team. Finally, they submit a quarterly progress report to LA for their monitoring purposes and the project implementation complies with sustainable development. Community and government members have a mixed view on the company (trust) particularly to project manager as they had meetings which raised their expectation and no action was taken. However, the community and government members were accommodating and receptive.

The Australian project manager managed the stakeholders according the three main variables defined for this research (Formality, Participation, and Communication). Regarding formality, some employees, contractors, and suppliers had a formal contract and some such as casual workers had a verbal contract. The meetings with government members were not formal.
Work does not stop if an accident (classified as minor accident) happens at site but do stop if a major accident occurs on site. The Australian project manager does not invite local authority for a meeting to solve issues related to project implementation.

5.2.3 Management approach of the stakeholders by the Australian project manager

In the Australian project setting, the project manager has a formal contract with all the workers involved on the project. Australian project manager interacts more with the stakeholders than Chinese PMs. Australian project manager prefers to involve stakeholders to some extent in the management of the project and he expects a lot from the stakeholders. Australian PMs

also participates to some community activities (ceremony, weddings, and conferences).

Project sponsor does interact enough with the project manager (Skype call, emails). He also has interactions with some stakeholders like government officials. Meanwhile, the project owner does not communicate with the PM. He trusts the project manager and leaves things to go on.

The project team members have relationship with the project manager, and communicate a lot with him and are committed to the project. The government and community do know the project manager and are informed about the project by the SD manager or team.

There is relationship between the project manager and contractors/suppliers. The project manager obtains clarification from the client regarding any changes of scope in project and invites the client to attend meetings on any issues related to the project. They considered the client as a powerful and highly influential stakeholder. Australian project manager met with the client at the planning stage to clarify the scope of the project, submit a monthly project report to client.

It was observed that the Australian project manager managing EPCM projects in Africa identified their role as the first category of Australian project manager described by Chen and Partington (2003) (project manager role as planning and controlling). The whole description of Australian management was observed in him: (individualism, small power distance, weak uncertainty avoidance, short-term orientation, inner-directed, contractual and autonomy).

5.2.4 Best management approaches of Australian Project Manager Stakeholder

In the Australian EPCM project environment, the following point was highlighted as best management approaches from the literatures and field observation:

- Project governance: Australian project manager used project organograms hierarchy that clearly identifies the structure of a group

or association. It is critical for functionality since it identifies responsibilities and superiors at the start of a project, so everyone knows who to go to.

- Relationship between PM and project sponsor: Crawford and Brett (2009) argue that project sponsor is a critical link between corporate and project governance. Project manager has to have a good relationship with the project sponsor to see his experience, knowledge, perspective, credibility and authority. The project sponsor has the accountability of the business case and benefits; the direction; the critical review of the progress; the management of internal and external interfaces and he represents the project to the organization.

- PM opens to communicate with the stakeholders: it is an essential factor for successful realization for the project manager to communicate with the stakeholders as he needs to persuade several kinds of stakeholders ranging from organizations, authorities or private initiatives to private people or companies.

- Weekly meetings to inform the project team members: Sisco (2002) argues that one of the most valuable tools PM have is a weekly project status meeting. These status meetings help:
  - The new project members develop as a team.
  - The project manager identifies weaknesses early enough to make corrections.
  - The project manager reinforces key points and provides early coaching.

- Monthly report to project sponsor: Crawford and Brett (2009) argue that it is important for a PM to keep the project sponsor informed about the project as he is responsible for the business case and the

management of internal and external interfaces project to the organisation.

- PM partaking in the community meeting and ceremony: throughout the community and ceremony partaking, the PM has the opportunity to learn about the community language, customs, and ways of life while adopting the ways of the environment in which they live.

- Communities and government member been informed of the project: by informing the community and government member, they are much more informed about project and their involvement are more active in the project (Walker et al., 2008).

5.3 Analysis of data from Australian Project Managers Managing stakeholders in EPCM projects in Africa

This section presents the data analysis and a discussion of the findings from the third phase of data collection, entitled Questionnaire in Figure 4.3. The questionnaires were given to five Australian companies in Mali, Botswana, South Africa, and Perth. The overarching goal of the analysis is to investigate the level of stakeholders' satisfaction in major EPCM projects in Africa by exploring the underlying management approaches. These participants include the project owner, the project sponsor, the project manager, the community members, the project contractors and suppliers, and the government. It was observed through the literature review that the Chinese management approach is more informal compared to the Australian approach which can be considered more formal Chapter 2. Major projects have been systematically selected to investigate the association between the participants in terms of their satisfaction with regards to the quality and the approach of their relationship with the project manager as shown in Section 3.5. The goal here is to determine the management approaches of the PMs, and the satisfaction of the stakeholders in regards to the approach.

5.3.1 Management of Community Members

Table 5.1 shows the results in respect of the community member's opinions in relation to the PMs' management approaches. Column 1 shows the code of the variable for the measurement, Column 2 the variable of the measurement, Column 3 the opinions of the community members, Column 4the mean of the results, Column 5 the ranking, Column 6 measurement variable summary, Column 7 the mean of the measurement variable summary, Column 8 the overall satisfaction and Column 9 the mean of overall satisfaction. IBM SPSS computing a simple mean as shown in Table 5.1.

Table 5.1: Opinions of community members regarding Australian PMs' stakeholders' management approaches

Code		Opinions of Community members	Mean	Ranking		Mean		Mean
FA1	Formal approach	I think that the project had impacted the community economically by providing the job to the people	4.13	1	Formality	3.00	Satisfaction	3.06
FA2		I think that the PM manages the environment degradation the project cause (i.e. noise, dust, logging) effectively.	2.98	3				
FA3		I think that the PM usually keeps us informed about the management of stakeholders	2.82	5				
FA4		I think that the frequency of the formal project report or brief is often	2.50	7				
FA5		I think that the quality of the formal project report or brief is	2.25	6				
FA6		I think that I have a formal feedback to the project (letters, emails):	1.40	8				
FA7		I think that the frequency of the meeting with the PM is often:	2.93					
FA8		I am satisfied with the infrastructure upgrade	3.95	4				
AI1	Informal approach	I think that I have an informal feedback to the project (discussions, telephones):	4.03	2				
PSA1	Partaking	I am satisfied the work of the PM in regard of the community	3.28	1	Partaking	3.21		
PSA2		There is a friendly feeling between PM and the community	3.18	2				
PSA3		The PM usually keeps us informed about things we want to know	3.18	2				
FC1	Communication	I am satisfied with the frequency of communication about the project activities.	3.18	2	Communication	3.45		
FC2		I think that I have a formal feedback from the project.	4.08	1				
QC1		I am satisfied with the quality of communication about the project activities.	3.10	3				

The questionnaires with four main variables of stakeholders' satisfaction measurement were administered to the community members. This was to obtain their opinions regarding the management approach Australian project managers use when managing project community members.

The four variables were summarised to three main variable measurements in respect of community members' satisfaction as it is shown in Column 6 and the summary of results in respect of the respondent's opinions in relation to

the identified formality, participation and communication instruments used in the questionnaires is shown in Column 7.

The 20 respondents' opinions related to the management formality, participation and communication of the Australian project managers were tested and resulted are as shown in the Table 5.1. In respect of all variables used in the instruments. The formality has 3.00 mean, participation 3.21 and communication an average opinion of 3.45 in respect of the instruments used.

Questions regarding Formality, community members were dissatisfied with the frequency and quality of formal reports from the project manager as shown the table with a mean of 2.50 and 2.25 respectively. However, they were satisfied with the informal feedback from the project managers. With respect to participation, community members were satisfied with the project contributing to the economic impact in the community and the participation of the project managers to the community activities. In response to communication, community members were satisfied with the frequency and quality of the communication provided by the project managers. Nevertheless, they were dissatisfied with the formal feedback from the project managers to them. Overall, the community was satisfied with the management approach of the Australian project managers with the mean higher than 3.45. There is a statistically significant relationship with the community satisfaction and the formality, participation and communication.

5.3.2 Australian Project Managers Managing Contractors

Table 5.2 shows the results in respect of the Contractors opinions in relation to the project managers' management approaches.

Table5.2: Opinions of contractors regarding Australian PMs' stakeholders' management approaches

Code		Opinions of Contractors	Mean	Ranking		Mean		Mean
FA1	Formal approach	I have a formal and clear contract with the project	4.90	1	Formality	3.33	Satisfaction	3.06
FA2		I think that the level of formal interaction (meetings, emails) with the PM is effective:	3.40	5				
FA3		I think that the level of formal interaction with other stakeholders is often:	3.00	8				
FA4		I think that the quality of formal interaction with the PM is effective:	3.70	3				
FA5		I am satisfied working with a terms and condition of my formal contract	4.00	2				
AI1	Informal approach	I have an informal contract with the project.	2.00	10				
AI2		I think that the level of informal interaction (chatting face to face, phone) with the PM is often	3.60	3				
AI3		I think that the level of informal interaction with other stakeholders is often	3.40	5				
AI4		I think that the quality of informal interaction with the PM is effective:	3.10	7				
AI5		I am satisfied working with an informal contract	2.20	9				
PSA1	Partaking	I am satisfied with the PM leadership	3.40	1	Partaking	3.13		
PSA2		There is a friendly feeling between PM and project team members	3.00	2				
PSA3		I am satisfied with the work environment	3.00	2				
FC1	Communication	I think that there is a lot of wasted time here due to poor communication	2.00	3	Communication	2.73		
FC2		I am satisfied with the frequency of communication about the project activities.	3.20	1				
QC1		I am satisfied with the quality of communication about the project activities.	3.00	2				

According to the descriptive Table 5.2, respondents agreed that the management approach was formal, which is typical to Australian EPCM management approaches as existing in the literature. The explore table shows that respondents have formal contract and were not satisfied working with an informal contract. They were satisfied with the informal interaction they have with the project managers. Contractors were satisfied with the

frequency and quality of communication with the PMs; they all agreed that there were not a waste of time due to poor communication.

The results are of the three of the main variable measurements in respect of contractors satisfaction are as shown in Column 6 and 7 for mean. Column 6 shows the results in respect of the contractors' opinions in relation to the identified formality, participation and communication instruments used in the questionnaires. Column 7 shows the mean of results of the summary, Column 8 the satisfaction and Column 9 the results of the satisfaction.

Contractors were satisfied in respect of formality with a mean of 3.33, similar to participation with a mean of 3.15 however, were dissatisfied with the communication an average opinion of 2.73 in respect. Overall, contractors were satisfied with the three main variables, which in turn were found relevant in assessing the level of satisfaction of the contractors. The results in the Australian PMs managing contractors' demonstration that in the overall satisfaction, formality, participation and communication are important and determinative in the satisfaction of contractors.

5.3.3 Management of Government Members

Table 5.3 shows the results in respect of the Government members' opinions in relation to the project managers' management approaches.

Table 5.3: Opinions of government officials regarding Australian PMs' stakeholders' management approaches

Code		Opinions of Government Officers	Mean	Ranking		Mean		Mean
FA1	Formal approach	I think that the terms and conditions of project permit is detailed and comprehensive	4.80	3	Formality	3.52	Satisfaction	3.10
FA2		I think that the terms and conditions of project permit cover the environmental expectation of the local community members	5.00	1				
FA3		I think that the terms and conditions of project permit cover the social expectation (e.g job opportunities) of the local community members	4.80	3				

FA4		I think that the terms and conditions of project permit cover the economic expectation (e.g improving local economic) of the local community members	5.00	1				
FA5		I think that the company respect the terms and conditions of their environmental permit	4.00	5				
FA6		I think that the level of formal interaction (meetings, emails) with the PM is often:	2.20	8				
FA7		I think that the quality of formal interaction with the PM is effective:	2.60	7				
FA8		I frequently receive complaints from local community members regarding the project	2.80	6				
AI1	Informal approach	I think that the level of informal interaction (discussion, telephone, etc) with the PM is often:	2.00	9				
AI2		I think that the quality of informal interaction with the PM is effective:	2.00	9				
PSA1	Partaking	I have confidence in the PM leadership in stakeholder management	2.40	2	Partaking	3.10		
PSA2		I am satisfied with the PM partaking to the activities of the government	3.80	1				
FC1	Communication	I am satisfied with the frequency of the formal communication about the project activities.	2.60	2	Communication	2.67		
FC2		I am satisfied with the frequency of the informal communication about the project activities.	2.60	2				
QC1		I am satisfied with the quality of communication about the project activities.	2.80	1				

The 5 government respondents gave opinions related to the management approaches of the Australian project managers agreed that the formality of management approach was formal, except the level of formal interaction and quality of formal interaction. When it comes to manage the government members, PMs were fully committed to the company's corporate social responsibilities as specified in the regulations and expected by the government members. Government members do not interact with the PMs Managers. Unlike in the Chinese EPCM companies, the frequency of complaints is lower in communities where a project is managed by Australian PMs. However, the government members were dissatisfied with the frequency and quality of communication with a mean of 2.00 and 2.80 respectively.

The summarized results in respect of the government members' opinions in relation to the identified formality, participation and communication

instruments used in the questionnaires. Column 6 shows the measurement parameters, Column 7 the average results of the summary of the instrument, Column 8 the satisfaction and Column 9 the results of the satisfaction.

In respect of the opinions of government members in regard of the PMs formality, they were satisfied with a mean of 3.52, similar to participation with a mean of 3.10, but dissatisfied with the communication an average opinion of 2.67. Overall, the government members were satisfied with the three main variables with mean of 3.10, which in turn were found relevant in measuring the level of satisfaction of the government members. The results in the Australian PMs managing government members demonstration that in the overall satisfaction, formality, participation and communication are important and determinative in the satisfaction of the government members.

5.3.4 Australian Project Managers Managing Suppliers

Table 5.4 shows the results in respect of the Suppliers opinions in relation to the project managers' management approaches.

Table5.4: Opinions of suppliers regarding Australian PMs' stakeholders' management approaches

Code		Opinions of Suppliers	Mean	Ranking		Mean		Mean
FA1	Formal approach	I have a formal and clear contract with the project	3.60	3	Formality	3.31	Satisfaction	3.75
FA2		I think that the level of formal interaction (meetings, emails) with the PM is effective:	3.30	6				
FA3		I think that the level of formal interaction with other stakeholders is often:	2.90	8				
FA4		I think that the quality of formal interaction with the PM is effective:	3.20	7				
FA5		I am satisfied working with a terms and condition of my formal contract	3.80	1				
AI1	Informal approach	I have an informal contract with the project.	2.60	10				
AI2		I think that the level of informal interaction (chatting face to face, phone) with the PM is often	3.80	1				
AI3		I think that the level of informal interaction with other stakeholders is often	2.80	9				
AI4		I think that the quality of informal interaction with the PM is effective:	3.50	5				

AI5		I am satisfied working with an informal contract	3.60	3				
PSA1	Partaking	I am satisfied with the PM leadership	3.80	1	Partaking	3.63		
PSA2		I am satisfied with the PM partaking to the project activities	3.80	1				
PSA3		I am satisfied with the work environment	3.30	3				
FC1	Communication	I think that there is a lot of wasted time here due to poor communication	2.00	3	Communication	2.73		
FC2		I am satisfied with the frequency of communication about the project activities.	3.10	1				
QC1		I am satisfied with the quality of communication about the project activities.	3.10	1				

Table 5.4 shows that suppliers agreed that the management approach was formal with a mean higher than 3.31, which is typical to Australian EPCM management approaches as existing in the literature. Suppliers have formal contract and were not satisfied working with no formal contract. The mean of 3.50 shows that they were satisfied with the informal interaction they have with the project managers. Suppliers were satisfied with the frequency and quality of communication with the PMs; they all agreed that there were not a waste of time due to poor communication. They were satisfied with the PMs Participation to project activities and leadership with a mean high than 3.63.

Column 6,7.8 and 9 show the results in respect of the suppliers' opinions in relation to the identified formality, participation and communication instruments used in the questionnaires. The summary of opinions of suppliers in regard of the PMs formality, have a mean of 3.31, similar to participation with a mean of 3.63 and 2.73 for communication. It has an overall of 3.75 that illustrates that suppliers were satisfied with the three main variables, which in turn was found relevant in measuring the level of satisfaction. The overall satisfaction, formality, participation and communication are important and influential in the satisfactory of Suppliers.

5.3.5 Opinions of the Australian Project Managers Managing stakeholders in EPCM Projects

Table 5.5 presents the results in respect of Project Managers opinions in relation to the project managers' management approaches.

Table 5.5: Opinions of Australian project managers regarding their stakeholders' management approaches

Code		Opinion of the Project Managers	Mean	Ranking		Mean		Mean
FA1	Formal approach	It is formally required in my contract to manage the expectation of the project owner	4.60	2	Formality	3.88	Satisfaction	4.09
FA2		It is formally required in my contract to manage the expectation of the project sponsor	4.60	2				
FA3		It is formally required in my contract to manage the expectation of the project team members	4.60	2				
FA4		It is formally required in my contract to manage the expectation of the contractors	4.60	2				
FA5		It is formally required in my contract to manage the expectation of the suppliers	4.60	2				
FA6		It is formally required in my contract to manage the expectation of the government members	3.20	33				
FA7		It is formally required in my contract to manage the expectation of the local community	3.20	33				
FA8		I think that the company have the Corporate Social Responsibility and Ethic	4.80	1				
FA9		I think that I achieve the company vision (Corporate Social Responsibility and Ethic)on the project vision	4.40	17				
FA10		I think that I keep the project stakeholders informed about the management the project	3.40	32				
FA11		I think that I have a formal feedback from the project owner (report, email):	3.20	33				
FA12		I think that I have a formal feedback from the project sponsor (report, email):	4.00	18				
FA13		I think that I have a formal feedback from the project team members (note, email):	3.60	19				
FA14		I think that I have a formal feedback from the suppliers/contractors (letter, note, email):	3.20	33				
FA15		I think that I have a formal feedback from the community (letter, note, email):	2.00	41				
FA16		I think that the frequency of the formal communication (meetings, emails) with the project owner is often:	3.00	39				
FA17		I think that the frequency of the formal communication (meetings, emails) with	4.60	2				

		the project sponsor is often:						
FA18		I think that the frequency of the formal communication (meetings, emails) with the project team members is often:	4.60	2				
FA19		I think that the frequency of the formal communication (meetings, emails) with the contractors is often:	4.60	2				
FA20		I think that the frequency of the formal communication (meetings, emails) with the supplier is often:	3.60	19				
FA21		I think that the frequency of the formal communication (meetings, emails) with the government members is often:	3.60	19				
FA22		I think that the frequency of the formal communication (meetings, emails) with the community members is often:	3.60	19				
AI1	Informal approach	It is informally required to manage the expectation of the project owner	4.60	2				
AI2		It is informally required to manage the expectation of the project sponsor	4.60	2				
AI3		It is informally required to manage the expectation of the project team members	4.60	2				
AI4		It is informally required to manage the expectation of the contractors	4.60	2				
AI5		It is informally required to manage the expectation of the suppliers	4.60	2				
AI6		It is informally required to manage the expectation of the government members	4.60	2				
AI7		It is informally required to manage the expectation of the community members	4.60	2				
AI8		I think that I have an informal feedback from the project owner (discussion):	3.20	33				
AI9		I think that I have an informal feedback from the project sponsor (discussion):	3.20	33				
AI10		I think that I have an informal feedback from the project team members (discussion):	3.60	19				
AI11		I think that I have an informal feedback from the suppliers/contractors (discussion):	3.60	19				
AI12		I think that I have an informal feedback from the community (discussion):	2.80	40				
AI13		I think that the frequency of the informal communication (discussion, telephone) with the project owner is often:	3.60	19				
AI14		I think that the frequency of the informal communication (discussion, telephone) with the project sponsor is often:	3.60	19				
AI15		I think that the frequency of the informal communication (discussion, telephone) with the project team members is often:	3.60	19				
AI16		I think that the frequency of the informal communication (discussion, telephone) with the contractors is often:	3.60	19				

AI17		I think that the frequency of the informal communication (discussion, telephone) with the supplier is often:	3.60	19				
AI18		I think that the frequency of the informal communication (discussion, telephone) with the government members is often:	3.60	19				
AI19		I think that the frequency of the informal communication (discussion, telephone) with the community members is often:	3.60	19				
PSA1	Partaking	There is a friendly feeling between the stakeholders and me	4.20	1	Partaking	4.20		
PSA2		I think that the project stakeholders are satisfied working with me	4.20	1				
PSA3		I participate to stakeholders' activities	4.20	1				
FC1	Communication	I think that the project owner is satisfied with the frequency of the formal communication (Reports, meetings, etc) with me.	4.20	1	Communication	4.20		
FC2		I think that the project owner is satisfied with the frequency of the informal communication (oral discussions, telephone, etc) with me.	4.20	1				
FC3		I think that the project sponsor is satisfied with the frequency of the formal communication (Reports, meetings, etc) with me.	4.20	1				
FC4		I think that the project sponsor is satisfied with the frequency of the informal communication (oral discussions, telephone, etc) with me.	4.20	1				
FC5		I am satisfied with the frequency of the feedback from the project sponsor.	4.20	1				
FC6		I am satisfied with the frequency of the feedback from the project team members.	4.20	1				
FC7		I am satisfied with the frequency of the feedback from the contractors.	4.20	1				
FC8		I am satisfied with the frequency of the feedback from the suppliers.	4.20	1				
FC9		I am satisfied with the frequency of the feedback from the project community members.	4.20	1				
QC1		I think that the project owner is satisfied with the quality of communication with me.	4.20	1				
QC2		I think that the project sponsor is satisfied with the quality of communication with me.	4.20	1				
QC3		I am satisfied with the quality of the feedback from all the stakeholders.	4.20	1				

The 5 respondents' opinions related to the management approaches of the Australian project managers point out that they use a mixed of formal informal management approach with means of both higher than 4.00 as shows in table 5.5. They have a clear assignment in their contracts which is

to manage stakeholders and to respect the company Corporate Social Responsibility and Ethics. A study by Winch (2000) argues that the identification of a clear mission for the projects at different stages is widely considered to be essential for the effective management of stakeholders. Furthermore, Yang et al (2010) summarises a claim from Winch (2000) who argues that before every activity of stakeholder management, the project manager should have a better understanding of the tasks and objectives at a particular stage of the project lifecycle, including the issues of cost, schedule, budget, etc…. The complexity of client organizations and the social, economic, and regulatory environment in which the projects operate means that "the strategic definition of the project mission is inevitably politicized". The quality of communication with both the government members and team members and Australian project managers was dissatisfying. It implies that all these groups required more valuable information from the project managers than he/she would have expected and provided. But the Australian project managers remained committed to the company's corporate social responsibilities which were defined as one of the main sources of satisfaction for the community towards the project. The project managers' opinions to the quality, frequency of communication with project contractors/suppliers, project sponsors, project owners, government members and team members was satisfactory. It implies that all these groups required more valuable information from the project managers than he/she would have expected and provided. This situation justifies why the project managers were not satisfied with the frequency and the quality of formal feedback from government members and the community members as means shown in the explore table. Despite the dissatisfactory quality of communication with the team members, the project managers completely agree to have frequent and quality feedback from team members with a mean high than 4.00. It was found that PMs participate to stakeholders' activities. The Australian project managers were found satisfied with their own management approaches as it is shown in Column.

The overall satisfaction from formality, participation and communication mean are 4.09 with the formality mean of 3.88, participation 4.20 and

communication 4.20. It illustrates the importance of the three variables to stakeholders satisfied.

5.3.6 Management of Project Sponsors

Table 5.6 shows the results in respect of Project Sponsors opinions in relation to the project managers' management approaches.

Table 5.6: Opinions of project sponsors regarding Australian PMs' stakeholders' management approaches

Code		Opinions of Project sponsors	Mean	Ranking		Mean		Mean
FA1	Formal approach	I think that the company uses a formal approach when it comes to stakeholder management	3.40	12	3.43		Satisfaction	3.75
FA2		I think that the company has a Corporate Social Responsibility and Ethic policy	3.80	5				
FA3		I think that the PM achieves the company vision (Corporate Social Responsibility and Ethic) on the project	4.00	3				
FA4		I think that the PM usually keeps me informed formally about the management of stakeholders	3.60	9				
FA5		I think that the formal project report or brief the PM provide to me include stakeholder management issues	3.60	9				
FA6		I think that the formal project report or brief regarding stakeholder management is up to date	4.00	3				
FA7		I think that the formal project report or brief regarding stakeholder management is comprehensive and detailed	3.00	17				
FA8		I think that the formal project report or brief regarding stakeholder management is not detailed	3.00	17				
FA9		I think that I provide a formal feedback to the project (report, email) regarding the project stakeholder management issues:	3.00	17				
FA10		I think that the frequency of the meeting with the PM is often:	3.40	12				
FA11		I think that the satisfactory management of the Ministry of infrastructure is a formal part of the PM's Key Performance index (KPI) and contract	2.60	22				
FA12		I think that the satisfactory management of the project team members is a formal part of the PM's Key Performance index (KPI) and contract	3.60	9				
FA13		I think that the satisfactory management of the contractors is a formal part of the PM's Key Performance index (KPI) and contract	4.40	1				

FA14		I think that the satisfactory management of the suppliers is a formal part of the PM's Key Performance index (KPI) and contract	3.80	5				
FA15		I think that the satisfactory management of the local community is formally part of the PM's Key Performance index (KPI) and contract	3.80	5				
IA1	Informal approach	I think that the company uses an informal approach when it comes to stakeholder management	2.40	23				
IA2		I think that the PM usually keeps me informed informally about the management of stakeholders	4.20	2				
IA3		I think that I provide an informal feedback to the project (discussion, telephone) regarding the project stakeholder management issues:	3.20	15				
IA4		I think that the satisfactory management of the government is an informal part of the PM's Key Performance index (KPI) and contract	3.80	5				
IA5		I think that the satisfactory management of the project team members is an informal part of the PM's Key Performance index (KPI) and contract	2.80	21				
IA6		I think that the satisfactory management of the contractors is an informal part of the PM's Key Performance index (KPI) and contract	3.40	12				
IA7		I think that the satisfactory management of the suppliers is an informal part of the PM's Key Performance index (KPI) and contract	2.80	20				
IA8		I think that the satisfactory management of the local community is an informal part of the PM's Key Performance index (KPI) and contract	3.20	15				
PSA1	Partaking	I have confidence in the PM leadership in stakeholder management	4.00	1	Partaking	3.80		
PSA2		I think that the frequency the PM participation to activities is often:	3.40	2				
PSA3		I am satisfied working with the PM	4.00	1				
FC1	Communication	I think that the frequency of the formal project report or brief is often	4.00	1	Communication	3.70		
FC2		I am satisfied with the frequency of the formal communication about the project activities.	3.60	3				
FC3		I am satisfied with the frequency of the informal communication about the project activities.	3.20	4				
QC1		I am satisfied with the quality of communication about the project activities.	4.00	1				

The 5 respondents' opinions related to the management approaches of the Australian project managers is shown in table 5.6. In this Australian case, the project sponsors opinions are that project managers are formal and informal.

The project sponsor did not really consider the management satisfactory of the community or the government member surrounding the project, but agreed with the satisfactory management of suppliers, contractors, team members and project owners being a formal part of the project manager's Key Performance index (KPI) and contract. The respondents were satisfied with partaking between project managers and project sponsors. The project sponsors were committed to achieving the corporate social responsibility expectations of the company and the project. Regarding communication, project sponsors were satisfied with the communication process of the project managers.

The opinions of Australian Project Sponsors in regards of the PMs Stakeholder management approaches shown that: formality mean is 3.43, participation 3.80 and communication 3.70. It illustrates the importance of the overall satisfaction from formality, participation and communication mean is 3.75 to stakeholders satisfactory.

5.3.7 Australian Project Managers Managing Project Owners

The 5 project owners respondents' opinions related to the management approaches of the Australian project managers and stakeholders satisfaction are presented below.

Table 5.7: Opinions of project owners regarding Australian PMs' stakeholders' management approaches

Code		Opinions of Project owners	Mean	Ranking		Mean		Mean
FA1	Formal approach	I think that the company uses a formal approach when it comes to stakeholder management	4.60	2	Formality	3.53	Satisfaction	3.93
FA2		I think that the company has a Corporate Social Responsibility and Ethic policy	4.80	1				
FA3		I think that the PM achieves the company vision (Corporate Social Responsibility and Ethic) on the project	4.60	2				
FA4		I think that the PM usually keeps me informed formally about the management of stakeholders	4.40	4				

FA5		I think that the formal project report or brief the PM provide to me include stakeholder management issues	4.40	4				
FA6		I think that the formal project report or brief regarding stakeholder management is up to date	4.40	4				
FA7		I think that the formal project report or brief regarding stakeholder management is comprehensive and detailed	4.40	4				
FA8		I think that the formal project report or brief regarding stakeholder management is not detailed	3.60	14				
FA9		I think that I provide a formal feedback to the project (report, email) regarding the project stakeholder management issues:	2.20	22				
FA10		I think that the frequency of the meeting with the PM is often:	4.00	8				
FA11		I think that the satisfactory management of the Ministry of infrastructure is a formal part of the PM's Key Performance index (KPI) and contract	3.80	12				
FA12		I think that the satisfactory management of the project team members is a formal part of the PM's Key Performance index (KPI) and contract	4.00	8				
FA13		I think that the satisfactory management of the contractors is a formal part of the PM's Key Performance index (KPI) and contract	4.00	8				
FA14		I think that the satisfactory management of the suppliers is a formal part of the PM's Key Performance index (KPI) and contract	3.20	15				
FA15		I think that the satisfactory management of the local community is formally part of the PM's Key Performance index (KPI) and contract	2.40	18				
IA1	Informal approach	I think that the company uses an informal approach when it comes to stakeholder management	1.40	23				
IA2		I think that the PM usually keeps me informed informally about the management of stakeholders	4.00	8				
IA3		I think that I provide an informal feedback to the project (discussion, telephone) regarding the project stakeholder management issues:	3.80	12				

IA4		I think that the satisfactory management of the government is an informal part of the PM's Key Performance index (KPI) and contract	3.00	16				
IA5		I think that the satisfactory management of the project team members is an informal part of the PM's Key Performance index (KPI) and contract	3.00	16				
IA6		I think that the satisfactory management of the contractors is an informal part of the PM's Key Performance index (KPI) and contract	2.40	18				
IA7		I think that the satisfactory management of the suppliers is an informal part of the PM's Key Performance index (KPI) and contract	2.40	18				
IA8		I think that the satisfactory management of the local community is an informal part of the PM's Key Performance index (KPI) and contract	2.40	18				
PSA1	Partaking	I have confidence in the PM leadership in stakeholder management	4.40	1	Partaking	3.87		
PSA2		I think that the frequency the PM participation to activities is often:	3.20	3				
PSA3		I am satisfied working with the PM	4.00	2				
FC1	Communication	I think that the frequency of the formal project report or brief is often	4.40	1	Communication	4.40		
FC2		I am satisfied with the frequency of the formal communication about the project activities.	4.40	1				
FC3		I am satisfied with the frequency of the informal communication about the project activities.	4.40	1				
QC1		I am satisfied with the quality of communication about the project activities.	4.40	1				

Project owners were not on the opinions of using informal approach to stakeholder management as shown in the table with a mean of 1.40. They know that the companies had a Corporate Social Responsibility and Ethic policy and the formal Key Performance index (KPI) was part of the PM's satisfactory measurement. They were not concerned about whether or not the management was satisfactory for the rest of the stakeholders which constitutes a formal part of the project manager's key performance index in the project. Project owners were satisfied with the quality and frequency of

communication. They were also satisfied with the participation to different activities by the project managers. The summary of project owners opinions in relation to the identified formality, participation and communication instruments used in the questionnaires. Overall satisfactions from formality, participation and communication have a mean of 3.93. The formality mean is 3.53, participation 3.87 and communication 4.40. It illustrates that the three variables are important and influential in the satisfaction of project owners.

5.3.8 Management of Project Team Members

Table 5.8 shows the results in respect of Project team members' opinions in relation to the project managers' management approaches.

Table 5.8: Opinions of project team members regarding Australian PMs' stakeholders' management approaches

Code		Opinions of Community members	Mean	Ranking		Mean		Mean
FA1	Formal approach	I have a formal and clear contract with the project	4.50	3	Formality	3.71	Satisfaction	3.71
FA2		I think that the level of formal interaction (meetings, emails) with the PM is effective:	4.60	2				
FA3		I think that the level of formal interaction with other stakeholders is effective:	2.70	8				
FA4		I think that the quality of formal interaction with the PM is effective:	4.70	1				
FA5		I am satisfied working with a terms and condition of my formal contract	4.20	5				
AI1	Informal approach	I have an informal contract with the project.	2.00	10				
AI2		I think that the level of informal interaction (Chatting during lunch or after work) with the PM is effective	4.00	6				
AI3		I think that the level of informal interaction with other stakeholders is effective	4.00	6				
AI4		I think that the quality of informal interaction with the PM is effective:	4.30	4				
AI5		I am satisfied working with an informal contract	2.10	9				
PSA1	Partaking	I am satisfied with the PM leadership in team member management	4.20	1	Partaking	3.7		
PSA2		I am satisfied with the PM partaking to the project activities	4.20	1				
PSA3		There is a friendly feeling between PM and project team members	4.20	1				
PSA4		I am satisfied with the work environment	3.7	3				
PSA5		I am satisfied with the training I received here	2.20	4				

FC1	Communication	I am satisfied with the frequency of communication about the project activities.	4.60	1	Communication	3.73		
QC-1		I think that there is a lot of wasted time here due to poor communication	2.00	3				
QC2		I am satisfied with the quality of communication about the project activities.	4.60	1				

From table 5.8, it can be seen that project managers were formal according to the 10 respondents of the team members. In effect from the observations on the Australian project sites which were done in Mali, the presence of a formal and detailed contract between the team member and the contract tends to create a job guarantee to the team member's side. On the other hand, empirical studies have shown that African people have developed this perspective of contract guaranteeing the job ever since the early ages of Western colonization. The project team members were satisfied with the project managers partaking and being involved in their day-to-day life at work. Despite his/her comparative prejudiced advantage, and the fully formal approach towards the team members, Australian managers proved to be slightly more partaking than the Chinese manager. It also appears that the project team members were not interested in whether the interaction between the project manager and the rest of the stakeholders is formal or not, as the mean is only 2.6. The same observation was made with regards to their formal interaction with the project manager. This figure reinforces the observations made during site work for which it was found that Australian EPCM are formal in their respective countries, but due to their presence and experience in Africa, they have adopted the opposite approach in dealing with Africans. Even though Australia was not a colonizer in Africa, some Africans do not differentiate them from the Europeans who colonised the continent. Furthermore, the project team members found the project to be a great opportunity for skill improvement and a training environment but were dissatisfied with the frequency of training. All in all the team members were dissatisfied with the management approach as a whole; however, they still committed to offering their full and high potential performance so that the company always delivered. A statistical test, whose output shows that this great improvement (from Chinese EPCM with Australian EPCM) in the team

member's satisfaction was highly due to the possibility of skill improvement and the opportunity of training that comes with the Australian management. It was also observed that the communication between project managers and team members were frequent. Nevertheless, African workers kept harmony and warm brotherhood within the team members' community. Besides having something to do to keep busy, African workers were found to be particularly inspired and motivated to meet each other day after day. The motivation to meet was to sing as they work together, and to share their joy and sorrows.

The overall opinions of Australian Project team members in regards of the PMs Stakeholder management approaches have formality mean 3.71, participation 3.71 and communication 3.71. It illustrates the importance of the overall satisfaction from formality, participation and communication mean is 3.71 to the project team members satisfactory.

5.4 Summary

Through the field observations, it can be seen that Australian project managers managing stakeholders involving in EPCM projects are managed as follow:

Australian managers' project stakeholders are on a more formal arrangement. Project governance is developed for the stakeholders to know who is who and what it his responsibilities in the project. However, the project governance does not help when it comes to the organisational conflict in the project environment as present in the argument. Australian project manager is more open to communication and it flows both ways during the meetings. Their management approach is a mix of formal and informal management. The relationship between the project manager and the stakeholders is flexible due to the structure of the company as they have a SD manager managing the community and the government. This allows the project manager to focus more on the management of the other stakeholders. This has a drawback as the project manager is not very much

in control of the community and the government which creates a conflict between the country manager and the project manager.

A set of measurement variables were used to assess the level of satisfaction of all parties involved in the Australian EPCM projects environment. The literature presented in previous chapters showed that the Australian formality approach works in the Australian environment. The result shows that Australians formality is a mix of formal and informal with some stakeholders when managing EPCM projects in Africa. In the following chapter, the result of the Chinese Project Managers managing EPCM projects in Africa is presented.

Chapter 6

Chinese Project Managers managing Stakeholders in EPCM projects in Africa

6.1 Introduction

This chapter presents the Chinese Project Managers managing stakeholders in EPCM projects in Africa. The objective 2 of the research is to explore and identify the best practices of Chinese project managers' approaches to stakeholder management in EPCM projects in Africa. Data were sourced from field observation and questionnaires as described in chapter 4. As in chapter 5, the field observation served to develop survey questionnaires. Likert scale survey questionnaires were administrated to the different stakeholders to identify the best practices in respect to stakeholder management in EPCM projects. The chapter finishes with the summaries.

6.2 Field observation 2: Chinese Project Manager managing EPCM project in Africa

The author joined the company as a researcher; his aim was to get as much information as possible regarding the best practice Chinese PM have when managing stakeholders in Africa (Mali). The researcher follows a Chinese project manager managing a construction of the Interchange link for the highway in Mali, West Africa, by a Chinese Engineering group. The Interchange link for the highway project was initiated by the government of Mali to permit traffic on the main road to pass through the junction without directly crossing any other traffic stream. The Chinese Engineering group was awarded the contract for the project (engineering design, procurement, and construction). The project was designed by the same company. The duration of the construction of the interchange was scheduled for 18 months. In order to be effective, the Chinese project manager needed to satisfy the project stakeholders.

Following Chinese PM, the researcher has some difficulty:
Firstly, the researcher was not allowed to get written information from the PM due to security reasons, according to the company; secondly, there was a language barrier as the PM interaction with some stakeholders like project sponsor, some suppliers and team members, where the Chinese were in Mandarin.

6.2.1 Chinese companies entered Africa market

Early in the study, the author found that there were different diplomacies that Chinese EPCM firms used to enter into the African project arena. Before researching Chinese companies in Africa, it was important to understand the different procedures Chinese companies use to enter into the Africa EPCM projects. Chen (2009) argues that Chinese EPCM firms enter in Africa through three different manners. Firstly, most Chinese EPCM companies enter Africa in conjunction with Chinese government aid projects. They develop and accumulate work experience and knowledge in understanding the stakeholders during the project period.

Secondly, when a Chinese EPCM company wins a tender for a large-scale construction project, depending on its capacity at the time, it sometimes chooses to play the role of a project management company and bring in medium-sized construction firms (i.e. regional or provincial firms) from China who then subcontracts part or the entire project to them. These medium-sized companies usually have a respectable working relationship with the national EPCM companies' head office in China or in their other international projects (Brautigam, 2009). Through this subcontracting process, these medium-sized firms gradually take a foothold in the industry with the support of the main EPCM companies. It is also in this way that the main EPCM companies organise and coordinate the strength of all these firms to enhance and extend their own capacity and capability.

Thirdly, some of the employees of the Chinese EPCM companies, especially those in managerial positions, quit and start up their own private construction firms, who then mostly subcontract to larger Chinese EPCM companies. Chen (2009) argues that it is understandable that the Chinese EPCM companies prefer to subcontract their projects to smaller Chinese firms because of fewer language and cultural differences. With the established long-term relationship between them, there is long-standing mutual trust and reliability**.**

Brautigam (2009) presents five tactics Chinese engineering companies use to enter into the African projects. Those points are:

- Chinese companies' bids by Chinese enterprises in response to contract tenders in Africa.
- Formation of business joint ventures between African and Chinese enterprises which shows the collectivism of the Chinese approach.
- Creation of new or expanded Chinese owned businesses in Africa which demonstrates the strong uncertainty avoidance of the Chinese management.
- Chinese purchases of stocks or bonds in African companies. Some are Chinese enterprises that are invited to manage African public sector facilities such as power stations, railroads or communication systems.

Brautigam (2009) claims that the majority of the Chinese EPCM companies in Africa is mostly state-owned and/or controlled enterprises under the direct and demanding control of the Chinese government and the Chinese Communist Party.

Wong and Chan (1999) claim that some Chinese companies' involvement in EPCM projects in Africa are from diplomatic ties between China and Africa which dates back to 1956 and the establishment of Sino-Egyptian relations. These companies are invited by the Chinese government to manage African public sector facilities and then they stay behind when the projects are

finished to tender (public and private) based on the relationship built in the country.

Methods used by Chinese firms to enter into the African EPCM market show that the Chinese management approach is based on relationships and long-term orientation as Wong and Chan (1999) had presented in their papers.

6.2.2 Chinese Project Management

Brautigam (2009) states that Chinese companies' initiatives in Africa are in railway, construction, mining, oil, and clean energy. Bimolaksono (2011) claims that interaction drives higher standardization in project methodology and practice in the country, which further allows greater coordination and cooperation in conducting projects on a larger scale. Whereas China isolated itself for a period of time, today the country is a powerful force on the global economic scene and using project management as a competitive edge. Despite its late start in adopting project management, China is proving to implement a standard project management practice. Bisagni (2011: 51) claims that the pace and determination with which projects are brought to successful completion is impressive. In large part, Bisagni (2011: 47) credits the "top down approach of corporate structures, the government and the management of projects" for speedy results". This is an opportunity for the rest of the world to learn about commitment and decision-making." Therein lays one of the key differences between China's project management culture and that of the rest of the world. Yin (2011: 47) argues that "In the United States, project management is all about the systematic approach, with standardized procedures clearly outlined from A to Z." Projects in China tend to be run less rigidly, with ultimate accountability landing on sponsors and executives. Such a structure is a positive as "it puts responsibility on the top people, making them answer for mistakes made" (Bisagni, 2011: 51). For program and project managers, one of the top priorities should be to identify key stakeholders and why they want the project to succeed (Yin, 2011: 47), and then reaches out to them individually – not in a team meeting to form an

alliance built upon trust and commitment. Of course, stakeholder management is a factor for project managers around the world, but with China it often presents a more complicated engagement. “It takes a lot of time to build up relationships” (Yin, 2011: 47). On one of his projects, the most senior manager remained silent during large team meetings, so he couldn’t get a read on his thoughts.

6.2.3 Observation of Chinese Firms Managing Projects in Africa

The author started by observing what the Chinese project manager does when managing projects in Africa (Mali).The first observation was the absence of project governance. There was no organisation chart; however, team members knew who to report to in the Chinese organisation. Next, Chinese project manager management attention was on team members and contractors/suppliers. The management of governments and community were outsourced to an African management consultant. Chinese government has active participation with Chinese companies in Africa and it has agreements with African governments (Brautigam, 2009). This enables Chinese project manager to manage the project team members and contractors/suppliers, when the outsource company manages the government and community members.

The key strategic positions in Chinese firms in Africa are usually held by members of staff with Chinese origins. The majority of the Chinese suppliers were from China. Chinese management, engineers, technicians and general labourers live together in the same location. They do everything together and informally share the project information between themselves. The team works in collaboration and with mutual respect. However, they have some reservations about their African colleagues. Chinese PMs did every planning and organizing tasks by themselves. They were reluctant to delegate that kind of works to others.

Chinese PMs follow Chinese government rules dictated by the Chinese embassy in Africa. A member of the Consulate said that “The Chinese understand the political part of projects and a huge part of the government is to work with high-level stakeholders. For example, the Chinese government works with the African government to get things done much more in a long term commitment by taking time to build relationships with communities”. Chinese project organisations have rules and a cultural hierarchy which ensures harmony between the organisation and the project. The gap between the two (organisation and project) is not wide as the organisation used management systems which are followed by the project’s participant without resistance. The majority of the Chinese contractors are small Chinese firms or joint ventures between African and Chinese firms. Figure 5.1 below shows the stakeholder management approach in the Chinese EPCM company developed from the literature review and field observation in Mali. It is different from the Australian stakeholder management shown in Chapter 5, Figure 5.4. The interface with project organisation and project is visualised as operating under two forces as well; push forces and pull forces represented by dotted arrows sit down and arising from the organisation to the project. These show either practically none or a pull force from the organisation relating to a desire for obtaining support in stakeholder management. Participation from the organisation to the project is shown as a dotted arrow. The distance between organisation and project is no wider as the Australian gap due to the participation, formality and communication between Chinese and African government. The communication and participation line from the project manager and the rest of project stakeholders is not satisfactory because Chinese project manager does not communicate with the whole stakeholders group. The communication between stakeholders and project manager is not regular as it goes from the higher chain of command to the lower members only.

Figure 6.1presents the stakeholder management approach in the Chinese EPCM companies in Mali.

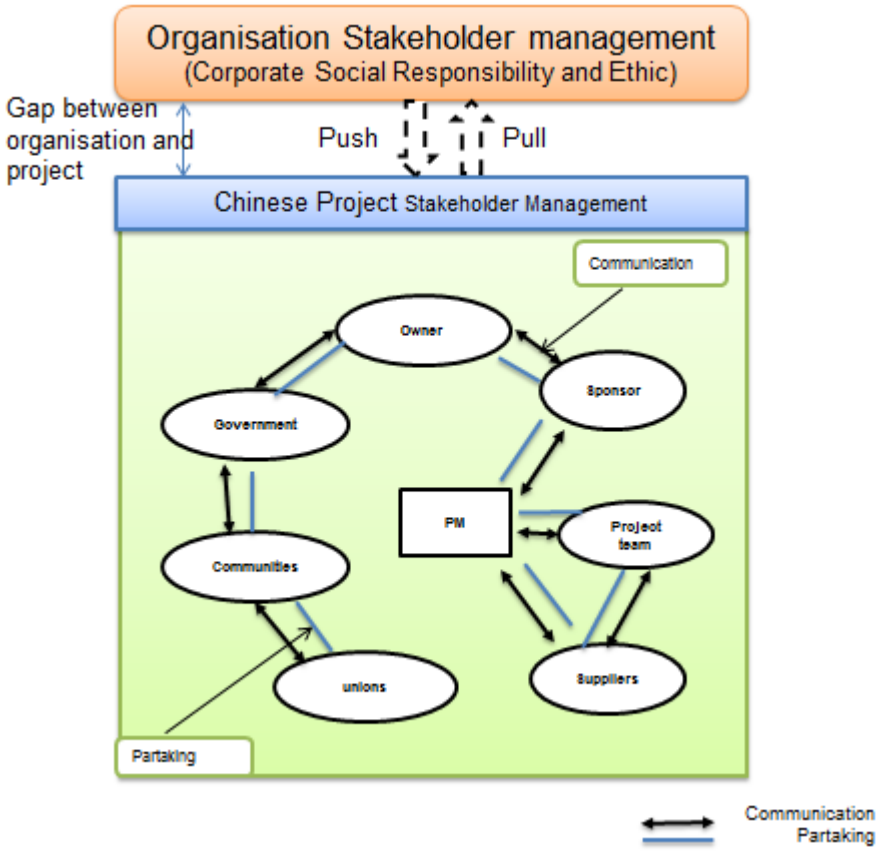


Figure 6.1 Chinese stakeholder management approach

6.2.4 Stakeholder management approach by Chinese Project manager, managing EPCM projects in Mali

The Chinese project manager believed that his responsibility is also to deliver the project on time, scope, and budget simultaneously respecting all participants. This is because, the Chinese pay greater attention to group harmony and lasting relationships when resolving conflicts, and the PM expects to be promoted to a higher position in the company. The top manager, like the project manager, used to take all the responsibilities on himself and did not interact broadly with stakeholders. It was observed that the Chinese PM did not communicate much with all the stakeholders; however, he was the centre of everything in the project.

The Chinese Project Manager does not really identify project stakeholders therefore; project stakeholders' needs and expectations were not known by

the Chinese PMs. The project manager is the person on top of the project and doesn't communicate with some members involved in the same project, although they would like to be more informed about the project. Information goes from the top to the bottom and does not go the other way in the Chinese project environment. Chinese PM does not engage with the whole stakeholders, he has a very little expectation from stakeholders and he does not take part in the community activities.

Project Owner: the project owner for the project was the Malian Government, represented by the Ministry of Infrastructure. The project was negotiated between the Malian and the Chinese governments. The project owner did not know and did not communicate with the PM. The project owner has an idea about the project stakeholders, but did not have a considerable relationship with any of them. The project owner's satisfaction was measured by the achievement of the expected project outcomes. Chinese project managers recognise the project owner as the highest influenced people of the project. He communicated with the project owner through project sponsor at all stages of the project if he wanted clarification regarding any changes of scope.

Project Sponsor: the Chinese project sponsor was the Managing Director of the company in Africa. The Chinese project sponsors responsible for securing spending authority and resources for the project. The Project Sponsor's primary responsibility is to manage the outcome of the project. He acts as a vocal and visible champion, legitimises the project's goals and objectives, keeps abreast of major project activities, and is a decision-maker for the project. In the case of this research, it was observed that the relationship between the project sponsor and the PM was significant. The project sponsor was satisfied with the PM managing the project. The communication between the project sponsor and the PM was face-to-face and sometime by email according to his response. The project sponsor knew who the other project stakeholders were and the most important stakeholder to be managed according to the project sponsor was the project owner. He

communicated often with the project owner due to his influence and power within the project.

Project Team Members: the Project Team Members are responsible for executing tasks and producing deliverables as outlined in the Project Plan and directed by the Project Manager. Some Project Team Members serve as Team Leaders, providing task and technical leadership, and maintaining a portion of the project plan. The Chinese project team was visually divided in two groups. The first group was the Chinese workers from China and the second group was the African workers.

The Chinese group at work were committed when working together. Those at the office were in front of their computers for most of the time. Those onsite were at their work stations. They communicated with each other in Chinese and did not interact with the African colleagues as they did with the Chinese. The Chinese workers in Africa did everything together and lived together. There are advantages and drawbacks of Chinese living and do everything together in Africa. The advantages are that: it costed them less living together; and it increased collectiveness of a marginal group in a foreign land. The drawbacks are: it stopped the cultural learning between both Chinese and Africans, and it created discrimination and sometime confrontation between Chinese and Africans workers. For the Chinese, living and doing everything together is an advantage for the project manager as they discussed the project after work.

The African group was frustrated with the Chinese group as there was not enough interaction between each other. There were no meetings and the project manager did not communicate with them. This can be classed as not enough interaction and lack of communication.

Project contractors and suppliers: the Chinese company building the inter change highway had no contractors on the project. The work was done and managed by the same Chinese company. The majority of stuff was supplied from China by the construction company and some materials from the Chinese suppliers (shops) in the country. The Chinese construction company knew the Chinese suppliers in Africa and they had a mutual relationship and

trust between them. The Chinese project team member was allowed to go to the supplier and get whatever he wants for the project without documents signed by the PM. Chinese project manager communicates with the Chinese contractors if there are one engaged in the project at all stages; they requested a report from contractors at all stages of the project. Chinese project managers lead the contractors regarding unclear procedure/process and they process the payment of contractors immediately after each stage of the project is completed.

Community members: The Chinese PM did not take part in the community meeting regarding the project or any community activity. The community did not communicate with the project manager although; they would like to be informed about the project. They were not informed about the project by anyone. The Chinese PMs said that it was the responsibility of the government to communicate with the community.

Government or Local authority

Chinese project manager does not manage Local Authority (LA) themselves, they do not know the project manager however, government members play the main role in Chinese project setup. Chinese project managers comply with the requirement/law which enforced by LA and they obtain approval from LA before any start of work at site through the consultant or African manager working in the company.

It was observed that local authority was not invite to meetings to solve the issue related to the project implementation, and do not communicate frequently with them about project implementation at all stages. Even though LA would like to be more informed about the project. It was seen that it is not a question of stopping working if any accident happens at the project site.

6.2.5 Chinese Project Managers' managing stakeholders

In the Chinese stakeholder management approach, the project manager does not interact very much with stakeholders – they take all of the

responsibilities and their main objectives are to achieve the project outcomes.

Project sponsors interact much more with the project manager and least with other stakeholders and have a lot of knowledge regarding the project. The project owner does not interact with the project manager and just waits for the achievement of the project; thus, he gives his entire trust to the project manager. The project team members are not associated with the project manager; they do not have any expectations from the project manager and they just follow project rules. The government members and community do not have information about the project, and they don't communicate with the project manager even if most of the time they do want to be updated about the project.

In the Chinese stakeholder management, project managers have a good relationship with suppliers. This is to avoid being supplied late which slows down the continuity of the project. Also, the project sponsor tries as much as possible to involve the project owner in the different steps of the project so that the project owner will know exactly how things are going forward. Project managers try as much as possible to get consultants involved in the project. They do not invite local authorities to meetings to solve issues related to the project implementation and mostly do not stop work when an accident occurs on site. Communication with local authorities at all stages is average, which means that project managers do not report to the LA, but they do obtain approval from local authorities before any work commences on site.

In conclusion, it can be stated that the Chinese project manager sees his role as planning and controlling. Therefore, he is not 100% focused on collectivism. The Chinese group seemed collective and the rest of the stakeholders are individual.

The Chinese project manager is more contractual oriented than relationship focused. Everybody in the project has a contract including: staff and contractor. This is contrary to what the literature review shows. Chen and Partington (2003) and Stawicki et al. (2007) argue that the Chinese

management approach is informal or prefer Guanxi which is not found in African EPCM projects.

Furthermore, the Chinese project manager is not talkative, as he does not communicate with the project team members face to face. This also conflicts with the argument by Chen and Partington (2003) who said that the Chinese pay greater attention to building and maintaining personal relationships within the project team than to the task.

6.2.6 Best management approach of Chinese Project Manager managing stakeholders in EPCM project

The following points highlight the best practices of Chinese Project Managers managing stakeholders in EPCM projects in Africa take out from literatures and field observation.

- Diplomatic relations between Chinese and African governments, along with diplomatic relations between Chinese and African governments, was an advantage to the Chinese project manager, especially, when it comes to government member management.

- Respect for all participants: with respect to participants, Chinese stakeholders pay greater attention to maintaining personal relationships and to developing and organising a mutual respect. They do it because respect is deep-rooted in the Chinese cultural values (Wong And Chan, 1999; Lee, 1996; Chen and Partington, 2003). Other academic studies (Pinto, 1998; Bourne, 2005; Karlsen et al., 2008, Walker et al., 2008) talk about trust which is different to respect. Mayer et al. (1995: 73) define trust as “The willingness of a party to be vulnerable to the actions of another party based upon the expectation that the other will perform a particular action to the trust or, irrespective of the ability to monitor or control that other party”. Lewicki, McAllister and Bies (1998) elaborate further on trust in a way that extends our understanding by introducing the notion that parties

neither trust nor distrust each other; rather they exist in a state of combined trust and distrust. It is observed that in EPCM projects in Africa, stakeholders such as the local community, team members and governments' value respect over trust and it is vital for project managers to understand the difference between trust and respect. By developing a respectful environment between stakeholders it builds and maintains efficient relationship management.

- Respect the company law and rules: Chen and Partington (2003) argue that Chinese mostly respect the company law and rules as they express a strong self-identity as a company employee.

- Live together (Chinese): Chinese work and live happily in interactive teams. They perceive stakeholders as fundamental to management (Wong and Chan, 1999; Lee, 1996; Chen and Partington, 2003; Stawicki et al., 2007).

- Joint ventures between African and Chinese firms: Chinese go in joint ventures with African companies and consider African Joint Venture Company as brothers and sisters of their project team family. Chinese firms emphasise that they should help and educate them and work closely with them as one family (Chen and Partington, 2003).

6.3 Analysis of Chinese Project Managers' approaches managing stakeholders in EPCM projects in Africa

The following section presents the analysis of the data collected from the EPCM projects in Africa managed by Chinese project managers. The tables show the results of the respondents' opinions in respect of the identified management instruments used in the questionnaires.

Given that this essay is not a comparative study; the author is going to do a similar analysis of that in the previous Chapter. The aim is to explore the association between and within the selected groups and measurement parameters. Since the definitions of each of these groups and measurement parameters were given in Chapter Two and repeated in the previous section, this section will only focus on the analysis. That is: presentation and discussions on the results of the respondent's opinions in respect to the identified management instruments used in the questionnaires. The different tables are presented as follows: Column 1 shows the main variable for the measurement, Column 2 opinions of the community members, Column 3 the average mean of the results and Column 4 the ranking. IBM SPSS computing a simple mean as shown in Table 6.1. the difference between the two indices in is not too important and they are highly correlated.

6.3.1 Management of Community Members

Table 6.1 shows the results in respect of the Chinese community members' opinions in relation to the project managers' management approaches.

Table 6.1: Opinions of community members regarding Chinese PMs' stakeholders' management approaches

Code		Opinions of Community members	Mean	Ranking		Mean		Mean
FA1	Formal approach	I think that the project had impacted the community economically by providing the job to the people	3.84	1	Formality	1.67	Satisfaction	1.29
FA2		I think that the PM manages the environment degradation the project cause (i.e. noise, dust, logging) effectively.	1.05	4				
FA3		I think that the PM usually keeps us informed about the management of stakeholders	1.21	2				
FA4		I think that the frequency of the formal project report or brief is often	1.00	6				
FA5		I think that the quality of the formal project report or brief is	1.05	4				
FA6		I think that I have a formal feedback to the project (letters, emails):	1.00	6				
FA7		I think that the frequency of the meeting with the PM is often:	1.00	6				
FA8		I am satisfied with the infrastructure upgrade	1.21	3				
AI1	Informal approach	I think that I have an informal feedback to the project (discussions, telephones):	3.64	1				
PSA1	Partaking	I am satisfied the work of the PM in regard of the community	1.15	1	Partaking	1.06		
PSA2		There is a friendly feeling between PM and the community	1.03	2				
PSA3		The PM usually keeps us informed about things we want to know	1.00	3				
FC1	Communication	I am satisfied with the frequency of communication about the project activities.	1.15	1	Communication	1.15		
FC2		I think that I have a formal feedback from the project.	1.14	2				
QC1		I am satisfied with the quality of communication about the project activities.	1.15	1				

Table 6.1 below summarizes the analysis of all the variables in this group as produced in IBM-SPSS. The 20 respondents were clear on opinions related to the management approaches of the Chinese project managers.

The community members' opinions on the measurement parameters used on the project shows that they were that Chinese PMs are not formal or informal. They were very dissatisfied with the project managers' formality management approach. They were not communication between Chinese

project managers and them. The quality of communication Mean shows that there was no communication between project managers and community members. The absence of a communication between project managers and community members causes a lack of trust and creates fear of losing jobs for those who are part of the labour team.

Chinese project managers were found to be not partaking at all levels of interaction with both the community members and some on-going processes relating to the involvement of local community members on their projects. Finally, almost all of the community members were not satisfied with the management approach. These results are consistent with previous findings in the literature (see Wong and Chan, 1999; Lee, 1996; Chen and Partington, 2003; and Stawicki et al., 2007).

The summary of results shown the management approach and the project community member's satisfaction regarding Chinese project managers are statistically no significant as shows in Column 9 with mean of 1.28. The system still works perfectly because these community members have no direct relationship with the project managers and they have strong external motivation for their involvement with the project such as the hope for the company to fulfil its corporate social responsibility towards the community.

6.3.2 Chinese Project Managers Managing Contractors

Table 6.2 shows the results of the Contractors opinions with respect to the Chinese Project Managers' management approaches. The 10 respondents' opinions related to the management approaches of the Chinese project managers.

Table 6.2: Opinions of contractors regarding Chinese PMs' stakeholders' management approaches

Code		Opinions of Contractors	Mean	Ranking		Mean		Mean
FA1	Formal approach	I have a formal and clear contract with the project	4.90	1	Formality	3.33	Satisfaction	3.06
FA2		I think that the level of formal interaction (meetings, emails) with the PM is effective:	3.40	5				
FA3		I think that the level of formal interaction with other stakeholders is often:	3.00	8				
FA4		I think that the quality of formal interaction with the PM is effective:	3.70	3				
FA5		I am satisfied working with a terms and condition of my formal contract	4.00	2				
AI1	Informal approach	I have an informal contract with the project.	2.00	10				
AI2		I think that the level of informal interaction (chatting face to face, phone) with the PM is often	3.60	4				
AI3		I think that the level of informal interaction with other stakeholders is often	3.40	5				
AI4		I think that the quality of informal interaction with the PM is effective:	3.10	7				
AI5		I am satisfied working with an informal contract	2.20	9				
PSA1	Partaking	I am satisfied with the PM leadership	3.20	1	Partaking	3.07		
PSA2		There is a friendly feeling between PM and project team members	3.00	2				
PSA3		I am satisfied with the work environment	3.00	2				
FC1	Communication	I think that there is a lot of wasted time here due to poor communication	2.10	3	Communication	2.77		
FC2		I am satisfied with the frequency of communication about the project activities.	3.20	1				
QC1		I am satisfied with the quality of communication about the project activities.	3.00	2				

Based on this table, the mean shows that the management approach was formal. The contractors had a formal contract and they were satisfied with the terms and condition of the contract. The contractors were dissatisfied with the frequency and quality of communication with a mean less than 3. They were satisfied with the participation of the project managers to the activities with a mean higher than 3. The overall satisfaction from formality, participation and communication mean is 3.06 to stakeholders satisfactory as shows in Column 9.

6.3.3 Management of Project Team Members

This group is directly involved in the day-to-day running of the project with the full responsibility of executing tasks and producing deliverables as outlined in the Project Plan and directed by the Project Managers. Table 6.3 shows the results in respect to the project team members' responses to the questionnaires. The respondents were clear on their opinions related to the management approaches of the Chinese project managers. As with the management of contractors and suppliers, the management approach of the project team members was formal. Team members were dissatisfied with the project managers not partaking and not being involved in their day-to-day life at work. Studies by Cleland (1986), Savage et al. (1991), Jergeas et al. (2000), and Hartmann (2002) claim that promoting relationships between the project managers and the stakeholders are important for the project's success. The team members were not satisfied due to a lack of training. It is the role of project managers to come up with the plan for the project team members' training. The project team members were not satisfied with the frequency and quality of communication. The summary of the results in respect of the project team members' opinions in relation to the identified formality mean is 2.72, participation 2.46 and communication 2,97. In summary, the team members were dissatisfied with the management approach as a whole as shown the mean is less than 3; however, they still committed to offering their full and high potential performance so that the company always delivered good results.

Table 6.3: Opinions of project team members regarding Chinese PMs' stakeholders' management approaches

Code		Opinions of Team members	Mean	Ranking		Mean		Mean
FA1	Formal approach	I have a formal and clear contract with the project	4.00	1	Formality	2.72	Satisfaction	2.72
FA2		I think that the level of formal interaction (meetings, emails) with the PM is effective:	2.50	6				
FA3		I think that the level of formal interaction with other stakeholders is effective:	2.50	6				
FA4		I think that the quality of formal interaction with the PM is effective:	2.50	6				

FA5		I am satisfied working with a terms and condition of my formal contract	3.90	2				
AI1	Informal approach	I have an informal contract with the project.	2.00	9				
AI2		I think that the level of informal interaction (Chatting during lunch or after work) with the PM is effective	2.90	3				
AI3		I think that the level of informal interaction with other stakeholders is effective	2.90	3				
AI4		I think that the quality of informal interaction with the PM is effective:	2.60	5				
AI5		I am satisfied working with an informal contract	1.40	10				
PSA1	Partaking	I am satisfied with the PM leadership in team member management	2.70	1	Partaking	2.46		
PSA2		I am satisfied with the PM partaking to the project activities	2.70	1				
PSA3		There is a friendly feeling between PM and project team members	2.70	1				
PSA4		I am satisfied with the work environment	2.7	1				
PSA5		I am satisfied with the training I received here	1.50	2				
FC1	Communication	I am satisfied with the frequency of communication about the project activities.	2.50	2	Communication	2.97		
QC-1		I think that there is a lot of wasted time here due to poor communication	3.90	1				
QC2		I am satisfied with the quality of communication about the project activities.	2.50	2				

6.3.4 Chinese Project Managers Managing Suppliers

Table 6.4 shows the results of the Suppliers opinions with respect to the Chinese Project Managers' management approaches. The 10 respondents' opinions related to the management approaches of the Chinese project managers.

Table 6.4: Opinions of suppliers regarding Chinese PMs' stakeholders' management approaches

Code		Opinions of Suppliers	Mean	Ranking		Mean		Mean
FA1	Formal approach	I have a formal and clear contract with the project	3.80		Formality	3.25	Satisfaction	3.32
FA2		I think that the level of formal interaction (meetings, emails) with the PM is effective:	3.00					

FA3		I think that the level of formal interaction with other stakeholders is often:	2.40				
FA4		I think that the quality of formal interaction with the PM is effective:	2.70				
FA5		I am satisfied working with a terms and condition of my formal contract	3.80				
AI1	Informal approach	I have an informal contract with the project.	3.40				
AI2		I think that the level of informal interaction (chatting face to face, phone) with the PM is often	3.60				
AI3		I think that the level of informal interaction with other stakeholders is often	3.10				
AI4		I think that the quality of informal interaction with the PM is effective:	3.10				
AI5		I am satisfied working with an informal contract	3.60				
PSA1	Partaking	I am satisfied with the PM leadership	3.80		Partaking	3.63	
PSA2		I am satisfied with the PM partaking to the project activities	3.80				
PSA3		I am satisfied with the work environment	3.30				
FC1	Communication	I think that there is a lot of wasted time here due to poor communication	3.00		Communication	3.07	
FC2		I am satisfied with the frequency of communication about the project activities.	3.10				
QC1		I am satisfied with the quality of communication about the project activities.	3.10				

Table 6.4 shows that the management approach of the Chinese project managers in respect of the suppliers was formal. They were formal contract between the projects and the suppliers and they were satisfied with the terms and condition of the contract as shows in table 6.4 with a mean of 3.80. The contractors were satisfied with the frequency and quality of communication with a mean higher than 3. They were satisfied with the participation of the project managers to the activities with a mean higher than 3. The overall satisfaction from formality, participation and communication mean is 3.32 to stakeholders satisfactory as shows in Column 9.

6.3.5 Chinese Project Managers Managing Project Owners

As defined in Chapter two, this group constitutes the steering Committee of the company. Besides everything else, they assist in securing project

funding, assure the project deliverables, help in resolving issues and participate in policy decisions, approving scope changes, and providing direction and guidance to the project development. The 5 respondents gave opinions related to the management approaches of the Chinese project managers. Despite their critical role in the project, it was observed that the project owner does not have a particular or significant relationship with other parties in the project apart from his/her expectation from the project manager for delivery of the project. For this study, the project owners were the Malian government.

Table 6.5: Opinions of project owners regarding Chinese PMs' stakeholders' management approaches

Code		Opinions of Project owners	Mean	Ranking		Mean		Mean
FA1	Formal approach	I think that the company uses a formal approach when it comes to stakeholder management	4.40	1	Formality	4.75	Satisfaction	4.03
FA2		I think that the company has a Corporate Social Responsibility and Ethic policy	4.40	1				
FA3		I think that the PM achieves the company vision (Corporate Social Responsibility and Ethic) on the project	4.00	3				
FA4		I think that the PM usually keeps me informed formally about the management of stakeholders	3.60	9				
FA5		I think that the formal project report or brief the PM provide to me include stakeholder management issues	4.00	3				
FA6		I think that the formal project report or brief regarding stakeholder management is up to date	4.00	3				
FA7		I think that the formal project report or brief regarding stakeholder management is comprehensive and detailed	36.00	9				
FA8		I think that the formal project report or brief regarding stakeholder management is not detailed	2.40	22				
FA9		I think that I provide a formal feedback to the project (report, email) regarding the project stakeholder management issues:	4.00	3				
FA10		I think that the frequency of the feedback with the PM is often:	4.00	3				

FA11		I think that the satisfactory management of the Ministry of infrastructure is a formal part of the PM's Key Performance index (KPI) and contract	3.00	11				
FA12		I think that the satisfactory management of the project team members is a formal part of the PM's Key Performance index (KPI) and contract	3.00	11				
FA13		I think that the satisfactory management of the contractors is a formal part of the PM's Key Performance index (KPI) and contract	3.00	11				
FA14		I think that the satisfactory management of the suppliers is a formal part of the PM's Key Performance index (KPI) and contract	3.00	11				
FA15		I think that the satisfactory management of the local community is formally part of the PM's Key Performance index (KPI) and contract	3.00	11				
IA1	Informal approach	I think that the company uses an informal approach when it comes to stakeholder management	1.40	23				
IA2		I think that the PM usually keeps me informed informally about the management of stakeholders	4.00	3				
IA3		I think that I provide an informal feedback to the project (discussion, telephone) regarding the project stakeholder management issues:	3.00	11				
IA4		I think that the satisfactory management of the government is an informal part of the PM's Key Performance index (KPI) and contract	3.00	11				
IA5		I think that the satisfactory management of the project team members is an informal part of the PM's Key Performance index (KPI) and contract	3.00	11				
IA6		I think that the satisfactory management of the contractors is an informal part of the PM's Key Performance index (KPI) and contract	3.00	11				
IA7		I think that the satisfactory management of the suppliers is an informal part of the PM's Key Performance index (KPI) and contract	3.00	11				
IA8		I think that the satisfactory management of the local community is an informal part of the PM's Key Performance index (KPI) and contract	3.00	11				
PSA1	Partaking	I have confidence in the PM leadership in stakeholder	4.00	1	Partaking	3.33		

		management						
PSA2		I think that the frequency the PM participation to activities is often:	2.00	2				
PSA3		I am satisfied working with the PM	4.00	1				
FC1	Communication	I think that the frequency of the formal project report or brief is often	4.00	1	Communication	4.00		
FC2		I am satisfied with the frequency of the formal communication about the project activities.	4.00	1				
FC3		I am satisfied with the frequency of the informal communication about the project activities.	4.00	1				
QC1		I am satisfied with the quality of communication about the project activities.	4.00	1				

It emerges from this table 6.5 that project owners are satisfied with the formal management approach of the Chinese PMs with a mean higher than 4.00. they were also informed informally. Project owners were satisfied with the company's Corporate Social Responsibility and Ethic policy. They all agreed that the satisfaction stakeholders are the formal part of the project manager's Key Performance index (KPI) and contract. Project owners also agreed with the formal approach of the project manager when it comes to dealing with them, including all reports. However, it is consistent to find that all feedback from both parties cannot be formally addressed. It is observed that the respondents were divided when it comes to formal and informal feedback. From the observation in this study, most of the feedback is done over the phone which is not really formal, but not too informal either, since telephone conversations can be traceable. It also appears that Chinese EPCMs have a corporate social responsibility and ethics policy and that project managers achieve the company's vision of the project in terms of corporate social responsibility. Corporate social responsibility is important and relevant to the management of stakeholders as presented in Chapter 2 Section 2.2. Carroll (1979:499) claims that social responsibility includes "the economic (the obligation to produce goods and services, sell them at fair prices and make profit), legal (obligation to obey the law), and ethical (issues not embodied in law but expected by society) expectations that society has of organizations at

a given point in time". In summary, project owners were fully satisfied with the project management partaking in and committed to both the company's mission and the project. The results in respect of the respondent's opinions in relation to the identified are shown in Column 9: formality, participation and communication instruments used in the questionnaires. It is found that that project owners are overall satisfied with the management of the Chinese project managers with a mean higher than 3.00.

6.3.6 Management of Project Sponsors

As project sponsor, this group is the spending authority and resources for the project with the prime responsibility to manage the outcome of the project by acting as a vocal and visible champion, legitimizing the project's goals and objectives, keeping abreast of major project activities, and actively participating in major decision making in the course of the project. In the case of this research, the project sponsors were the Managing Directors of the Chinese companies. All of them have a great relationship with the project manager. The 5 respondents were clear on opinions related to the management approaches of the Chinese project managers. They have clear knowledge about the project stakeholders as they participated in the management of the projects and the project success was measured by the realization of the expected outcomes. As Walker et al. (2008) argues the project's success depends on the satisfaction of the project stakeholders.

Table 6.6: Opinions of project sponsors regarding Chinese PMs' stakeholders' management approaches

Code		Opinions of Project sponsors	Mean	Ranking		Mean		Mean
FA1	Formal approach	I think that the company use a formal approach when it comes to stakeholder management	4.00	1	3.22		Satisfaction	3.22
FA2		I think that the company has a Corporate Social Responsibility and Ethic policy	3.40	9				
FA3		I think that the PM achieve the company vision (Corporate Social Responsibility and Ethic) on the project	4.00	1				

FA4		I think that the PM usually keeps me informed formally about the management of stakeholders	2.00	21				
FA5		I think that the formal project report or brief the PM provide to me include stakeholder management issues	2.40	20				
FA6		I think that the formal project report or brief regarding stakeholder management is up to date	3.40	9				
FA7		I think that the formal project report or brief regarding stakeholder management is comprehensive and detailed	3.40	9				
FA8		I think that the formal project report or brief regarding stakeholder management is not detailed	2.60	17				
FA9		I think that I provide a formal feedback to the project (report, email) regarding the project stakeholder management issues:	3.40	9				
FA10		I think that the frequency of the meeting with the PM is often:	3.40	9				
FA11		I think that the satisfactory management of the Ministry of infrastructure is a formal part of the PM's Key Performance index (KPI) and contract	2.60	17				
FA12		I think that the satisfactory management of the project team members is a formal part of the PM's Key Performance index (KPI) and contract	4.00	1				
FA13		I think that the satisfactory management of the contractors is a formal part of the PM's Key Performance index (KPI) and contract	3.20	14				
FA14		I think that the satisfactory management of the suppliers is a formal part of the PM's Key Performance index (KPI) and contract	2.80	16				
FA15		I think that the satisfactory management of the local community is formal part of the PM's Key Performance index (KPI) and contract	2.00	21				
IA1	Informal approach	I think that the company use an informal approach when it comes to stakeholder management	1.80	23				
IA2		I think that the PM usually keeps me informed informally about the management of stakeholders	3.20	14				
IA3		I think that I provide an informal feedback to the project (discussion, telephone) regarding the project stakeholder management issues:	3.80	8				
IA4		I think that the satisfactory management of the government is an informal part of the PM's Key Performance index (KPI) and contract	2.60	17				
IA5		I think that the satisfactory management of the project team members is an informal part of the PM's Key Performance index (KPI) and contract	4.00	1				

IA6		I think that the satisfactory management of the contractors is an informal part of the PM's Key Performance index (KPI) and contract	4.00	1				
IA7		I think that the satisfactory management of the suppliers is an informal part of the PM's Key Performance index (KPI) and contract	4.00	1				
IA8		I think that the satisfactory management of the local community is an informal part of the PM's Key Performance index (KPI) and contract	4.00	1				
PSA1	Partaking	I have confidence in the PM leadership in stakeholder management	4.00	1	Partaking	3.80		
PSA2		I think that the frequency the PM participation to activities is often:	3.40	3				
PSA3		I am satisfied working with the PM	4.00	1				
FC1	Communication	I think that the frequency of the formal project report or brief is often	4.00	1	Communication	4.00		
FC2		I am satisfied with the frequency of the formal communication about the project activities.	4.00	1				
FC3		I am satisfied with the frequency of the informal communication about the project activities.	4.00	1				
QC1		I am satisfied with the quality of communication about the project activities.	4.00	1				

The results in the table 6.6 show that the project managers were satisfied with the project sponsor management's. Meeting the corporate social responsibility expectations of the company and the project was important for the project sponsors with a mean higher than 3.00. As argued with the project owners, corporate social responsibility is relevant for developing a stakeholder management framework. Researchers studding social responsibilities of stakeholder management have defined it in four perspectives: (1) economic (El-Sawah, 2006); (2) legal (Radin, 2002; Crow, 2008); (3) environmental (AlWaer et al., 2008; Reed, 2008; Prager and Freese, 2009); and (4) ethical (Phillips, 2003; Moodley et al., 2008; Smyth, 2008). They recommended project managers to manage stakeholders with the four perspectives of corporate social (economic, legal, environmental, and ethical) responsibilities (Yang et al., 2008). In their interaction, the project sponsor and the project manager were found to be neutral in both report and feedbacks. This is legitimate from the moment that the importance of the project sponsor and the partaking of the project manager come into play. The project sponsor did spend time managing government members or

community surrounding the project as it was outsourced to an African company, but they fully agreed with the satisfactory management of suppliers, contractors, team members and project owners being a formal part of the project manager's Key Performance index (KPI) and contract. The management approach was constant between the project sponsor satisfaction and the satisfactory management of contractors, team members, and project owners on one hand, and with the corporate social responsibility of the EPCM on the other. But the highest and statistically significant strength of association was found in the relationship with the satisfactory management of project owners. The summary of the results in respect of the project sponsors' opinions in relation to formality, participation and communication instruments used in the questionnaires the means were 3.22, 3.80 and 4.00 respectively as shown in Column 7. Overall, the project sponsors were satisfied with a mean higher than 3.00. This shows that formality, participation and communication are the measurement parameters of the overall satisfaction of project sponsors.

6.3.7 Opinions of Chinese Project Managers Managing EPCM projects in Africa

The project managers' respondents were clear on opinions related to the management approaches of the Chinese project managers.

Table 6.7: Opinions of Chinese project managers regarding their stakeholders' management approaches

Code		Opinion of the Project Managers	Mean	Ranking		Mean		Mean
FA1	Formal approach	It is formally required in my contract to manage the expectation of the project owner	4.60	2		3.57	Satisfaction	3.88
FA2		It is formally required in my contract to manage the expectation of the project sponsor	4.60	2				
FA3		It is formally required in my contract to manage the expectation of the project team members	4.20	9				
FA4		It is formally required in my contract to manage the expectation of the contractors	3.20	27				

FA5		It is formally required in my contract to manage the expectation of the suppliers	3.00	32				
FA6		It is formally required in my contract to manage the expectation of the government members	2.00	38				
FA7		It is formally required in my contract to manage the expectation of the local community	2.40	37				
FA8		I think that the company have the Corporate Social Responsibility and Ethic	4.80	1				
FA9		I think that I achieve the company vision (Corporate Social Responsibility and Ethic)on the project vision	4.40	4				
FA10		I think that I keep the project stakeholders informed about the management the project	3.60	22				
FA11		I think that I have a formal feedback from the project owner (report, email):	3.20	27				
FA12		I think that I have a formal feedback from the project sponsor (report, email):	4.00	10				
FA13		I think that I have a formal feedback from the project team members (note, email):	3.60	22				
FA14		I think that I have a formal feedback from the suppliers/contractors (letter, note, email):	3.20	27				
FA15		I think that I have a formal feedback from the community (letter, note, email):	2.00	38				
FA16		I think that the frequency of the formal communication (meetings, emails) with the project owner is often:	3.00	32				
FA17		I think that the frequency of the formal communication (meetings, emails) with the project sponsor is often:	4.00	10				
FA18		I think that the frequency of the formal communication (meetings, emails) with the project team members is often:	4.00	10				
FA19		I think that the frequency of the formal communication (meetings, emails) with the contractors is often:	4.00	10				
FA20		I think that the frequency of the formal communication (meetings, emails) with the supplier is often:	3.60	22				
FA21		I think that the frequency of the formal communication (meetings, emails) with the government members is often:	2.00	38				
FA22		I think that the frequency of the formal communication (meetings, emails) with the community members is often:	2.00	38				
AI1	Informal approach	It is informally required to manage the expectation of the project owner	4.40	4				
AI2		It is informally required to manage the expectation of the project sponsor	4.40	4				
AI3		It is informally required to manage the expectation of the project team members	4.00	10				
AI4		It is informally required to manage the expectation of the contractors	4.00	10				

AI5		It is informally required to manage the expectation of the suppliers	4.00	10				
AI6		It is informally required to manage the expectation of the government members	3.20	27				
AI7		It is informally required to manage the expectation of the community members	3.40	25				
AI8		I think that I have an informal feedback from the project owner (discussion):	4.40	4				
AI9		I think that I have an informal feedback from the project sponsor (discussion):	4.40	4				
AI10		I think that I have an informal feedback from the project team members (discussion):	4.00	10				
AI11		I think that I have an informal feedback from the suppliers/contractors (discussion):	4.00	10				
AI12		I think that I have an informal feedback from the community (discussion):	3.20	27				
AI13		I think that the frequency of the informal communication (discussion, telephone) with the project owner is often:	3.00	32				
AI14		I think that the frequency of the informal communication (discussion, telephone) with the project sponsor is often:	3.80	19				
AI15		I think that the frequency of the informal communication (discussion, telephone) with the project team members is often:	3.80	19				
AI16		I think that the frequency of the informal communication (discussion, telephone) with the contractors is often:	3.80	19				
AI17		I think that the frequency of the informal communication (discussion, telephone) with the supplier is often:	3.40	25				
AI18		I think that the frequency of the informal communication (discussion, telephone) with the government members is often:	2.80	36				
AI19		I think that the frequency of the informal communication (discussion, telephone) with the community members is often:	3.00	32				
PSA1	Partaking	There is a friendly feeling between the stakeholders and me	4.20		Partaking	3.87		
PSA2		I think that the project stakeholders are satisfied working with me	4.20					
PSA3		I participate to stakeholders' activities	3.20					
FC1	Communication	I think that the project owner is satisfied with the frequency of the formal communication (Reports, meetings, etc) with me.	4.20	1	Communication	4.2		
FC2		I think that the project owner is satisfied with the frequency of the informal communication (oral discussions, telephone, etc) with me.	4.20	1				
FC3		I think that the project sponsor is satisfied with the frequency of the formal communication (Reports, meetings, etc) with me.	4.20	1				

FC4		I think that the project sponsor is satisfied with the frequency of the informal communication (oral discussions, telephone, etc) with me.	4.20	1				
FC5		I am satisfied with the frequency of the feedback from the project sponsor.	4.20	1				
FC6		I am satisfied with the frequency of the feedback from the project team members.	4.20	1				
FC7		I am satisfied with the frequency of the feedback from the contractors.	4.20	1				
FC8		I am satisfied with the frequency of the feedback from the suppliers.	4.20	1				
FC9		I am satisfied with the frequency of the feedback from the project community members.	4.20	1				
QC1		I think that the project owner is satisfied with the quality of communication with me.	4.20	1				
QC2		I think that the project sponsor is satisfied with the quality of communication with me.	4.20	1				
QC3		I am satisfied with the quality of the feedback from all the stakeholders.	4.20	1				

The table 6.7 reveals that it is formally and informally required in project managers contract to manage the expectation of the project owners, project sponsors, project team members, contractors and suppliers. The management of the community and government members is not the responsibility of the Chinese PMs. This is consistent with the field observations. The opinions of stakeholders seem to be divided with regard to communication. Stakeholders such as project sponsors, project owners were satisfied with the communication, other such as team members, community and government members were dissatisfied with regard to communication. Chinese project managers did not communicate with project owners and community, government and some team members. More specifically, this implies that all these groups required more valuable information from the project manager than he/she would have expected and provided. As a consequence, the project manager was not satisfied with the frequency and the quality of formal feedback from government members, team members, contractors and suppliers. The project managers were committed to the company's corporate social responsibility which happens to be one of the measurements of project owners and project sponsors. The results in respect of the project managers' opinions in relation to formality have a mean

of 3.57, participation 3.87 and communication 4.20 with the overall mean of 3.88. It shows that Chinese PMs were satisfied with their management approach.

This result is consistent with the observation on the project site, and with the Chinese management approach for which sponsors, suppliers, and team members are the first-hand direct partners in helping the project manager to achieve his/her prime goal of delivering the project on time (Stawichi et al., 2007; Chen and Partington, 2003).

6.3.8 Management of Government Members

Table 6.8 shows the results in respect of government members' opinions in relation to the project managers' management approaches.

Table 6.8: Opinions of government members regarding Chinese PMs' stakeholders' management approaches

Code		Opinions of Government Officers	Mean	Ranking		Mean		Mean
FA1	Formal approach	I think that the terms and conditions of project permit is detailed and comprehensive	5.00	1	Formality	3.52	Satisfaction	2.64
FA2		I think that the terms and conditions of project permit cover the environmental expectation of the local community members	4.80	4				
FA3		I think that the terms and conditions of project permit cover the social expectation (e.g job opportunities) of the local community members	5.00	1				
FA4		I think that the terms and conditions of project permit cover the economic expectation (e.g improving local economic) of the local community members	5.00	1				
FA5		I think that the company respect the terms and conditions of their environmental permit	4.00	5				
FA6		I think that the level of formal interaction (meetings, emails) with the PM is often:	2.20	9				
FA7		I think that the quality of formal interaction with the PM is effective:	1.40	10				
FA8		I frequently receive complaints from local community members regarding the project	3.00	6				

AI1	Informal approach	I think that the level of informal interaction (discussion, telephone, etc) with the PM is often:	2.40	7				
AI2		I think that the quality of informal interaction with the PM is effective:	2.40	7				
PSA1	Partaking	I have confidence in the PM leadership in stakeholder management	2.40	1	Partaking	2.40		
PSA2		I am satisfied with the PM partaking to the activities of the government	2.40	1				
FC1	Communication	I am satisfied with the frequency of the formal communication about the project activities.	2.00	1	Communication	2.00		
FC2		I am satisfied with the frequency of the informal communication about the project activities.	2.00	1				
QC1		I am satisfied with the quality of communication about the project activities.	2.00	1				

The descriptive table 6.8 shows that that government members were satisfied the terms and conditions of project permit and licenses from them. They received complaints from local community members about the Chinese project managers in terms of social issues. Chinese project managers' formality with government members was a mixed of formal and informal. These results are consistent with both observation in this study and its expectations. Basically, this group is formed by members of the local government or municipality, local traditional authorities, auditors and other representatives of the Ministry of Infrastructure. Their main role is to ensure the fulfilment of a certain level of corporate social responsibility towards the local community while respecting a certain minimum of environmental norms and legal regulations. It is thus legitimate that the major part of the interactions with the management should have been and was formal. On the other hand, the government members were fully satisfied with the commitment of the project managers in their corporate social responsibilities policy, although there were frequent complaints from community members about misconduct and inappropriate practices of the company toward the community. It was found that the quality of communication was more influential to the dissatisfaction of the government with a mean of 2. With regards to this, government members were fully dissatisfied. Statistically, as shown in the following output, there was a linear relationship with the government member's satisfaction and formality. Communication and

partaking did not have the same relation to the satisfaction of the government members as it can be seen Column 9 with overall satisfaction has a mean of 2.64.

6.4 Summary

In this chapter, it can be seen that Chinese project managers managing stakeholders involving in EPCM projects are managed as follow:

Chinese government helps build long-term relationship between host governments in Africa and their company/projects: For the Chinese, an effective organisation for a project is a well-built 'Guanxi' network. One of the most important tasks to make a project plan work is to arrange a kind of suitable 'Guanxi' among governments; one in which 'Guanxi' will be developed to ensure success between project stakeholders because they will work in group harmony and lasting relationships (Chen and Partington, 2003; Stawicki et al., 2007). However, this is with the African government and Chinese stakeholders. With the rest of the stakeholders, this is not applied as seen in the discussion: focus on project delivery date line and cost; Chinese project manager performs and delivers project under certain constraints; Chinese spent considerable time on desk work and are more reluctant to delegate tasks (Tengblad, 2004).

A set of measurement variables were used to assess the level of satisfaction of all parties involved in the Chinese projects. The literature presented in previous chapters showed that the Chinese informal approach works in the Chinese environment in China. But it is different in Africa. When Chinese Project Managers are involved with a project in Africa, it's seeing that that they are Chinese less informal. With regards to this, the Chinese's approach suffers from some irregularities when managing EPCM projects in Africa. Nevertheless, it has been shown that formal and informal systems work in Africa; however, with a lower degree of acceptance. In the following chapter,

we will use the best of each pool to develop and propose a new alternative management approach.

Chapter 6 presented the result of observation, data analysis and a discussion of the findings of the Chinese Project Managers managing EPCM projects in Africa; this next chapter evaluates the best practices of the Chinese and Australian stakeholder management approaches and developed the new stakeholder management approach in EPCM projects in Africa.

Chapter 7

Development of the new stakeholder management framework

7.1 Introduction

The aim of this research is to develop a framework that improves stakeholder management in EPCM projects by combining extant approaches used by Australian and Chinese project managers in Sub-Saharan Africa. To address the aim, the study proceeded in two field works. Field observation and questionnaires focused on Research Objective 2. It investigated how Australian and Chinese Project Managers managed EPCM projects in Africa by field observation and questionnaires. The study in consequence cumulates the results from the field observation and questionnaires to develop a unified framework (see Figure 7.3) that can be used to manage stakeholders in EPCM projects.

This chapter begins with the overview of Australian project managers and Chinese project managers' stakeholder management approaches in EPCM projects in Africa. The propositions are presented, the development of a new stakeholder management theory from the assumption and the stakeholder management framework is presented as well. The chapter finished with a summary.

7.2 Overview of Australian Project Managers approaches

The results from the Australian Project Managers managing EPCM projects in Africa showed that the Australian project managers managing projects in Africa were recognised as the first category of Australian project manager described by Chen and Partington (2003) (project manager role as planning and controlling). The whole description of Australian management was observed in him: (individualism, small power distance, weak uncertainty avoidance, short-term orientation, inner-directed, contractual and autonomy). Australian project managers interact more with the stakeholders. Australian

project managers prefer to involve stakeholders to some extent in the management of the project and they expect a lot from the stakeholders. Project sponsor does not interact enough with the project manager but has interactions with some stakeholders like government member. Meanwhile, the project owner does not commit himself in the management of the project and just trusts the project manager and leaves things to go on.

The project team members have an average level of relationship with the project managers, and communicate a lot with him and commit enough in the project. The government members and community do not know the project manager and just a few are informed about the project.

There is a good relationship between the project manager and contractors/suppliers. The project manager obtains clarification from the Project Owner or representative regarding any changes of scope in project and invites the Project Owner or representative to attend meetings on any issues related to the project. They considered the Project Owner or representative as a powerful and highly influential stakeholder. Australian project manager met with the Project Owner or representative at the planning stage to clarify the scope of the project, submit periodically the project report to them at planning stage, design stage and construction stage.

Australian project managers instruct consultant to submit a report regarding site works during design process, approval of working/shop drawing and approval status with the local authority. He identified the consultant as stakeholders. Finally, Australian project managers guide the consultant regarding unclear procedure/process and process payment of consultant according to the type of contract they have with the contractors.

Australian project managers see local authority (LA) as a stakeholder depending on the situation of the villages in regard to the project. They communicate with LA about project implementation at all stages.

7.3 Overview of Chinese Project managers approaches

In the Chinese stakeholder management approach, the project manager does not interact very much with stakeholders – they take all of the responsibilities and their main objectives are to achieve the project outcomes.

Project sponsors interact much more with the project manager and least with other stakeholders and project sponsors have a lot of knowledge regarding the project. The project owner does not interact with the project manager and just waits for the achievement of the project; thus, he gives his entire trust to the project manager. The project team members are not associated with the project manager; they do not have any expectations from the project manager and they just follow project rules. The government members and community do not have information about the project, and they don't communicate with the project manager even if most of the time they do want to be updated about the project.

Chinese project managers have a good relationship with suppliers. This is to avoid being supplied late which slows down the continuity of the project. Also, the project sponsor tries as much as possible to involve the project owner in the different steps of the project so that the project owner will know exactly how things are going forward. Project managers try as much as possible to get consultants involved in the project. The project managers do not report and directly interact with all the stakeholders. They do not invite local authorities to meetings to solve issues related to the project implementation and mostly do not stop work when an accident occurs on site. There is not communication with local authorities, which means that project managers do not report directly to the LA, but they do obtain approval from local authorities before any work commences on site.

It was also found that the difficulties to Chinese project manager managing the client is to communicate with them at all stages of the project, engage them to be involved in the process of the management of the project. Chinese project managers obtain clarification from the project owner

regarding any changes of scope in the project. They do not invite the latter to attend meetings on any issues related to the project. Finally, Chinese project managers do not conduct a meeting at the planning stage of the project. Project sponsors periodically submit a project report to the project owner at the planning, design, and construction stage.

Chinese project managers managing consultant do not identify consultants as stakeholders. But, project managers communicate with consultant at all stage, to instruct consultant to submit design stages reports during process at design concept, detail design and final design. Chinese project managers do not identify local authority (LA) as the stakeholder.

In conclusion, it can be stated that the Chinese project manager sees their role as planning and controlling. Therefore, he is not 100% focused on collectivism. The Chinese group seemed collective and the rest of the stakeholders are individual.

The Chinese project manager is more contractual oriented than relationship focused. Everybody in the project has a contract including: staff and contractor. This is contrary to what the literature review shows. Chen and Partington (2003: 399) and Stawicki et al (2007) argue that the Chinese management approach is informal or prefer Guanxi which is not found in African EPCM projects.

Furthermore, the Chinese project manager is not conversational, as he does not communicate with the project team members face to face. This also conflicts with the argument by Chen and Partington (2003) who said that the Chinese pay greater attention to building and maintaining personal relationships within the project team than to the task.

7.4 Summary of the overview of Australian and Chinese PMs managing stakeholders in EPCM projects in Africa

Through the field observations presented in Sections 5.2 and 6.2, it was observed that Australian and Chinese project managers managing

stakeholders involving in EPCM projects are managed differently. The Australian project managers' management approach has a well-defined project Organogram. This is not the case with the Chinese approach. This Organogram together with the weekly meeting has the advantage of defining the communication and report channel when it comes to internal stakeholders, and reminding the team member of his/her daily duties in order to achieve the weekly target in the project progression framework. Furthermore, one of the Australian approaches' strength is the ability to inform the government and the community directly by the Project Sponsors and PMs, and also their willingness to participate and get involved in the community's life through their meetings and ceremonies. In contrast, to the Chinese who did not inform the government, community, and do not partake to the meetings and ceremonies. However, Chinese governments have a greater ability to negotiate and maintain a good diplomatic relationship with African governments which allows Chinese EPCMs project firms to operate in line with the local government's vision. This is consistent with the observations over the last thirty years where Chinese EPCMs tend to overtake Australian in winning master projects in Africa. Chinese managers tend to be more respectful than Australian managers towards the stakeholders, especially with team members. In fact, it was found that Chinese PMs live together with their team members (Chinese) in the same quarters, which reinforces the belief that they have a greater respect for one another. Regarding communication and interaction, Australian PMs tend to communicate more often than Chinese PMs, although they are more informal during the communication and interaction. Chinese management practices are willing to go into joint ventures with African EPCM then Australian management approach. Chinese project managers proved to provide more accurate and relevant information to the rest of the stakeholders, compared to the Australians who communicate more often but with low quality and relevance. Finally, both approaches need further adjustments and improvements regarding some performance aspects such as respect of participants, joint venture with African EPCMS, formal contractual, formal communication and participation in the stakeholders' activities.

Next, a set of measurement variables were also used to assess the level of satisfaction of all parties involved in a project. We separately explored the ability of the Australian management approach and the Chinese management approach to satisfy the stakeholders in a project. The literature presented in previous chapters showed that the Australian formal approach works in the Australian environment as well as the Chinese informal approach in China. When both types of management are involved with a project in Africa, it shows that Australians tend to be less formal and Chinese less informal. With regards to this, both approaches suffer from some irregularities, and it has been shown that these two systems work in Africa; however, with a lower degree of acceptance.

Managing project stakeholders means different things to Chinese and Australian project managers, because they have different approaches which are influenced by their cultures as defined in the literature. During field observations and questionnaires it became apparent that both Chinese and Australians are different in their respective countries but not completely so in Africa.

7.5 Development of a respect model of stakeholders' management in Africa

During the field observation and questionnaires analysis presented in Chapters 5 and 6, it was found that respect play an important role when it comes to participation and communication when managing project stakeholders. Therefore, to increase the involvement of stakeholders in EPCM projects in Africa, Project managers need to adopt the following respect model. Development of a respect model of stakeholders' management in Africa. This model is based on the respect model of cross-cultural communication developed by Welch (1998).

Respect is generally defined as due regard for the feelings, wishes, or rights of others (Welch, 1998). It became important for PMs to understand the respect model in EPCM projects environment.

The following points highlight the respect model in EPCM projects in Africa.

Relationship

Connect on a social level with stakeholders
Seek stakeholders' point of view
Consciously attempt to suspend judgement
Recognise and avoid making assumptions

Understanding

Remember that you are in someone else's territory
Partake in ceremonies of the community
Seek out and understand stakeholders' rationale in regard of the project
Verbally acknowledge the sustainable and unsustainable management of the project

Assistance

Ask about and try to understand the local culture
Help stakeholders overcome the culture barriers between project and local community
Involve local community members in the project
Reassure the stakeholders that you are there working with them

Partnership

Be flexible with regard to issues of process with the stakeholders
Negotiate title role when needed
Stress that you are working together to develop the project

Explanations

Check often for understanding
Use verbal clarification techniques with stakeholders

Cultural competence

Respect stakeholders' culture and beliefs

Understand that stakeholders' view of you may be identified by ethnic or cultural stereotypes

Be aware of your own biases and preconceptions

Know your limitations in addressing cultural issues

Understand your personal style and recognise when it may not be working with a given stakeholder

Trust

Take the necessary time and consciously work to establish trust with individuals or groups who have an interest or some aspect of rights or ownership in the project.

Frome the above point, a respect framework is developed for project managers managing EPCM projects as shows in figure 7.1. When project managers follow the seven points, it creates an environment where respects dominate and stakeholders are satisfied in the EPCM project environment.

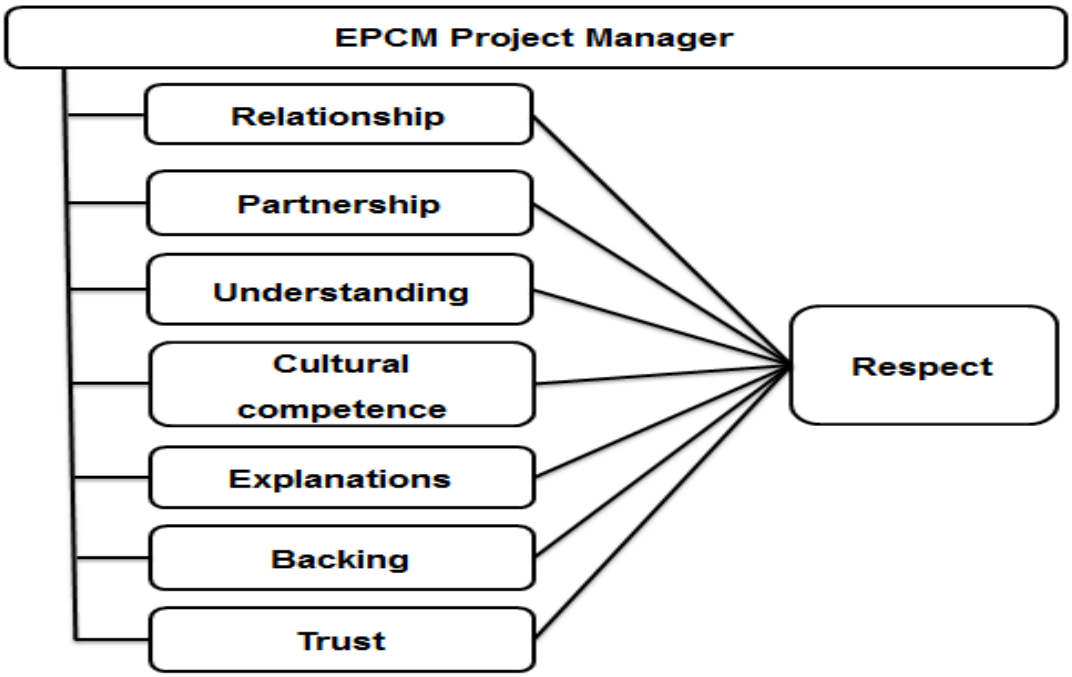


Figure 7.1 Respect frameworks in EPCM project (adopted from Welch, 1998).

7.6 Identify the best practices of Australian and Chinese

To identify the best practices, Independent sample t-test is used to determinate whether there is a statistically significant difference between the means of Australian and Chinese project managers. The new conceptual stakeholder management theory "Accustom stakeholder management theory" developed in section 7.9 is used. As it is described in Section 7.8, Accustom stakeholder management deals with the hard skills (which is the craft of stakeholder management), the soft skills (described as the art of project leadership), and the power structure skills (the ability to read the power structure of the stakeholder ecology and the willingness to operate in that environment). Statistical independent Samples t Test is used to define and deduce causal relationships between management approaches and stakeholders.

Generally, project managers often aim to satisfy stakeholders by improving or adding to their productive capacity. However, as described in the literature and further corroborated in this research, whether their desire to satisfy project stakeholders facilitates project success is strongly linked with, and to some extent depends on, stakeholders' satisfaction level. Therefore, project managers have to pay attention to needs and want of the stakeholders

While exploring the interactions between expectations, experiences and satisfaction in the construction project, Hartmann and Hietbrink (2013) concluded that meeting stakeholder expectations in construction projects are a requirement for stakeholders' satisfaction. The authors revealed that expectations only played a minor role in the formation of satisfaction about the infrastructure maintenance process and the information provided. The experience of the construction project and the information received about the project had a much stronger influence on stakeholder satisfaction. Although the expectations about the outcome of the project had a greater impact on the formation of satisfaction, they still had less influence than the outcome experiences which only partly supports the confirmation assertion.

Independent Sample t-test

Independent Sample t-test is used to compare the means for the two groups (Australian and Chinese) project managers managing EPCM stakeholders in Africa. The independent t-test assumes that variances of the Australian and Chinese are measuring to be equal.

Reliability analysis

Cronbach's Alphas were conducted to determine how the items in the scale hang together and the results had the entire Alpha higher than 0.7 and its do not improve if any of the items were deleted. All the variables were included in the scale of each stakeholder group see Section 4.12, Table 4.11 and 4.12.

7.6.1. Australian and Chinese Independent Sample t-test

This section explores the best Practices of Australian and Chinese project managers managing EPCM projects in Africa using Independent Sample t-test.

Independent Samples Test provides two statistical tests. In the left two columns of numbers, is the Levene's Test for Equality of Variances for the assumption that the variances of the two groups are equal (i.e., assumption of homogeneity of variance). And the needed information to test the equality of the means (Hinkle et al. 2003 and Green et al. 2003).

The author looks at the large column labeled Levene's Test for Equality of Variances to find out which row to read from. Levene's Test for Equality of Variances determines if the two conditions have about the same or different amounts of variability between scores. It has columns labeled F and Sig. The author uses the Sig. column to determine which row to read from. If the Sig. Value is greater than .05, the author reads from the top row. A value greater than .05 means that the variability in the two conditions is about the same.

That the scores in one condition do not vary too much more than the scores in the second condition. In another world, the variability in the two conditions is not significantly different (Hinkle et al. 2003 and Green et al. 2003).

If the Sig. Value is less than or equal to .05, the author reads from the bottom row. A value less than .05 means that the variability in the two conditions is not the same. The scores in one condition vary much more than the scores in the second condition. In other words, the two conditions are significantly different (Hinkle et al. 2003 and Green et al. 2003).

In the chosen row to read from, the author looks at the results of the T-test. These results tell if the Means for the two groups are statistically different (significantly different) or if they are relatively the same. To do that, the author uses Sig (2-Tailed) value. The Sig (2-Tailed) value tells if the two condition Means are statistically different. If the Sig (2-Tailed) value is greater than .05, it can be concluded that there is no statistically significant difference between the two settings. If the Sig (2-Tailed) value is less than or equal to .05, it can be conclude that there is a statistically significant difference between the two settings.

The variables are presented in the tables with the code. The meaning of the variables codes are the same presented in Chapters 5 and 6.

Project Managers

This segment evaluates the difference between the means of two project managers (Australian and Chinese) managing stakeholders in EPCM projects. This is to evaluate whether the means for two project managers (Australian and Chinese) are significantly different from each other. If it is different, the best practices will be selected to develop the new stakeholder management framework.

Table 7.1 shows the Independent Samples Test of Australian and Chinese project managers.

Table 7.1 Independent Samples Test of Australian and Chinese project managers

Independent Samples Test

Code	Group	Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
FA1	Australian	0	1	0	8	1	0	0.346	-0.799	0.799
	Chinese			0	8	1	0	0.346	-0.799	0.799
FA2	Australian	0	1	0	8	1	0	0.346	-0.799	0.799
	Chinese			0	8	1	0	0.346	-0.799	0.799
FA3	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
FA4	Australian	0	1	0	8	1	0	0.693	-1.598	1.598
	Chinese			0	8	1	0	0.693	-1.598	1.598
FA5	Australian	0.516	0.493	0.302	8	0.771	0.2	0.663	-1.33	1.73
	Chinese			0.302	7.934	0.771	0.2	0.663	-1.332	1.732
FA7	Australian	7.111	0.029	-1	8	0.347	-0.4	0.4	-1.322	0.522
	Chinese			-1	4	0.374	-0.4	0.4	-1.511	0.711
FA8	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
FA9	Australian	3.571	0.095	0.894	8	0.397	0.4	0.447	-0.631	1.431
	Chinese			0.894	5.882	0.406	0.4	0.447	-0.7	1.5
FA10	Australian	7.111	0.029	-1	8	0.347	-0.4	0.4	-1.322	0.522
	Chinese			-1	4	0.374	-0.4	0.4	-1.511	0.711
FA11	Australian	0.59	0.464	-0.408	8	0.694	-0.2	0.49	-1.33	0.93
	Chinese			-0.408	7.784	0.694	-0.2	0.49	-1.335	0.935
FA13	Australian	0	1	0	8	1	0	0.566	-1.304	1.304
	Chinese			0	8	1	0	0.566	-1.304	1.304
FA14	Australian	1.524	0.252	0.632	8	0.545	0.4	0.632	-1.058	1.858
	Chinese			0.632	7.692	0.545	0.4	0.632	-1.069	1.869
FA16	Australian	0.103	0.757	-1	8	0.347	-0.4	0.4	-1.322	0.522
	Chinese			-1	7.529	0.348	-0.4	0.4	-1.333	0.533
FA20	Australian	7.111	0.029	1	8	0.347	0.4	0.4	-0.522	1.322
	Chinese			1	4	0.374	0.4	0.4	-0.711	1.511
IA1	Australian	0	1	0	8	1	0	0.346	-0.799	0.799
	Chinese			0	8	1	0	0.346	-0.799	0.799
IA2	Australian	0	1	0	8	1	0	0.346	-0.799	0.799
	Chinese			0	8	1	0	0.346	-0.799	0.799
IA6	Australian	0	1	0	8	1	0	0.693	-1.598	1.598
	Chinese			0	8	1	0	0.693	-1.598	1.598
IA7	Australian	0.457	0.518	-0.258	8	0.803	-0.2	0.775	-1.986	1.586
	Chinese			-0.258	7.692	0.803	-0.2	0.775	-1.999	1.599
IA8	Australian	1.524	0.252	-0.632	8	0.545	-0.4	0.632	-1.858	1.058
	Chinese			-0.632	7.692	0.545	-0.4	0.632	-1.869	1.069
IA10	Australian	7.111	0.029	1	8	0.347	0.4	0.4	-0.522	1.322
	Chinese			1	4	0.374	0.4	0.4	-0.711	1.511
IA11	Australian	0	1	0	8	1	0	0.566	-1.304	1.304
	Chinese			0	8	1	0	0.566	-1.304	1.304
IA12	Australian	0	1	0	8	1	0	0.693	-1.598	1.598
	Chinese			0	8	1	0	0.693	-1.598	1.598

IA13	Australian	0.091	0.771	-0.667	8	0.524	-0.4	0.6	-1.784	0.984
	Chinese			-0.667	7.902	0.524	-0.4	0.6	-1.787	0.987
IA14	Australian	7.111	0.029	1	8	0.347	0.2	0.2	-0.261	0.661
	Chinese			1	4	0.374	0.2	0.2	-0.355	0.755
IA15	Australian	7.111	0.029	1	8	0.347	0.2	0.2	-0.261	0.661
	Chinese			1	4	0.374	0.2	0.2	-0.355	0.755
IA16	Australian	7.111	0.029	1	8	0.347	0.2	0.2	-0.261	0.661
	Chinese			1	4	0.374	0.2	0.2	-0.355	0.755
IA17	Australian	17.053	0.003	1.5	8	0.172	0.6	0.4	-0.322	1.522
	Chinese			1.5	4	0.208	0.6	0.4	-0.511	1.711
IA18	Australian	0	1	0	8	1	0	0.693	-1.598	1.598
	Chinese			0	8	1	0	0.693	-1.598	1.598
IA19	Australian	0.516	0.493	-0.302	8	0.771	-0.2	0.663	-1.73	1.33
	Chinese			-0.302	7.934	0.771	-0.2	0.663	-1.732	1.332
PSA1	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
FC1	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
FC2	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
FC3	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
FC4	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
FC5	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
FC6	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
FC7	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
FC8	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
FC9	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
QC1	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
QC2	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
QC3	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
OS	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652

From Table 7.1 testing the difference between Australian and Chinese PMs stakeholder management approaches test, the Levene's Test for Equality of variables shows that the two Australia and Chinese have the same amounts of variable. The row to read from is the first row from the variable, the Means results for the two groups Australia and Chinese have the Sig (2-Tailed) value greater than .05 therefore, are no statistically significant difference between the two variable of stakeholder management approaches as made known in Section 7.3. This is contradicting to Ping and Partington (2003) finding who claim that Australian project management approach is difference to Chinese project managers. However, the finding is consistent with Chen, Partington and Wang (2007) who claim that Western project management theories and practices have become increasingly recognized and dispersed in China, particularly in construction-related work.

Community Members

Here, the author evaluates the difference between the means of Australian and Chinese Project managers managing community members in EPCM projects in Africa. This is to evaluate whether the means for both project managers (Australian and Chinese) are significantly different from each other. If it is different, the best practices will be selected to develop the new stakeholder management framework.

Tables 7.2 shows the Independent Samples Test of Australian and Chinese community members.

Table 7.2 Independent Samples Test of Australian and Chinese community members

Independent Samples Test

Code	Group	Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
FA1	Australian	3.414	0.069	2.007	76	0.048	0.283	0.141	0.002	0.564
	Chinese			2.026	69.203	0.047	0.283	0.14	0.004	0.561
FA2	Australian	323.768	0	6.365	75	0	1.794	0.282	1.233	2.356
	Chinese			6.447	38.686	0	1.794	0.278	1.231	2.357
FA3	Australian	89.843	0	4.857	75	0	1.196	0.246	0.705	1.686
	Chinese			5.034	43.234	0	1.196	0.238	0.717	1.675
FA4	Australian	0.168	0.683	1.765	77	0.082	0.384	0.218	-0.049	0.817
	Chinese			1.767	76.845	0.081	0.384	0.217	-0.049	0.817
FA5	Australian	140.388	0	7.111	77	0	2.021	0.284	1.455	2.587
	Chinese			7.191	43.993	0	2.021	0.281	1.455	2.588
IA1	Australian	13.391	0	3.371	76	0.001	0.922	0.274	0.377	1.467
	Chinese			3.416	62.321	0.001	0.922	0.27	0.383	1.462
IA2	Australian	128.198	0	5.069	77	0	1.1	0.217	0.668	1.532
	Chinese			5.135	39	0	1.1	0.214	0.667	1.533
IA3	Australian	29.641	0	2.387	76	0.019	0.2	0.084	0.033	0.367
	Chinese			2.449	39	0.019	0.2	0.082	0.035	0.365
IA4	Australian	184.348	0	7.043	76	0	1.872	0.266	1.343	2.402
	Chinese			7.214	42.334	0	1.872	0.26	1.349	2.396
IA5	Australian	151.673	0	6.908	77	0	1.946	0.282	1.385	2.507
	Chinese			6.986	44.088	0	1.946	0.279	1.385	2.508
PSA1	Australian	104.86	0	6.786	77	0	1.97	0.29	1.392	2.548
	Chinese			6.856	47.64	0	1.97	0.287	1.392	2.548
PSA2	Australian	143.01	0	7.02	75	0	2.065	0.294	1.479	2.651
	Chinese			7.271	43.846	0	2.065	0.284	1.492	2.637
QC-1	Australian	118.042	0	7.518	77	0	2.121	0.282	1.559	2.683
	Chinese			7.603	44.071	0	2.121	0.279	1.559	2.683
QC2	Australian	0.344	0.559	0.077	77	0.939	0.015	0.2	-0.383	0.414
	Chinese			0.077	76.663	0.939	0.015	0.2	-0.382	0.413
FC1	Australian	1.696	0.197	-0.743	77	0.46	-0.16	0.215	-0.587	0.268
	Chinese			-0.745	74.404	0.459	-0.16	0.214	-0.587	0.267
OS	Australian	87.053	0	7.165	77	0	2.045	0.285	1.477	2.613
	Chinese			7.238	47.962	0	2.045	0.283	1.477	2.613

From the Independent Samples Test Table 7.2, the results of the analysis indicate that the variables are related to the satisfaction. The reading are deduced from the first row (Australia). All the Significant p-value which are higher than 0.05 are not statistically significant difference Sig p-value such as: FA1, FA4, QC2, FC1. The rest of the variables have Sig p-value are less than 0.05 which mean that there are statistically significant different.

According to Sig (2-Tailed) value, the variables (FA2, FA3, FA5, IA1, IA2, IA3, IA4, IA5, PSA1, PSA2, QC-1, OS) from the both Australia and Chinese are statistically significant different. It can be concluded that respondents rate the Australian management approach higher than Chinese PMs management approach.

Project Owners

This section evaluates the difference between the means of the Australian and Chinese project managers managing project owners in EPCM projects in Africa. This is to evaluate whether the means for the two project managers are significantly different from each other. If it is different, the best practices will be selected to develop the new stakeholder management framework.

A table 7.3 shows the Independent Samples Test of Australia and Chinese project managers managing project owners.

Table 7.3 Independent Samples Test of Australian and Chinese project owners

Independent Samples Test

Code	Group	Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
FA1	Australian	0	1	0.577	8	0.58	0.2	0.346	-0.599	0.999
	Chinese			0.577	8	0.58	0.2	0.346	-0.599	0.999
FA2	Australian	1.524	0.252	1.265	8	0.242	0.4	0.316	-0.329	1.129
	Chinese			1.265	7.692	0.243	0.4	0.316	-0.334	1.134
FA3	Australian	96	0	2.449	8	0.04	0.6	0.245	0.035	1.165
	Chinese			2.449	4	0.07	0.6	0.245	-0.08	1.28
FA4	Australian	0.427	0.532	1.706	8	0.126	0.8	0.469	-0.282	1.882
	Chinese			1.706	6.63	0.134	0.8	0.469	-0.322	1.922
FA5	Australian	96	0	1.633	8	0.141	0.4	0.245	-0.165	0.965
	Chinese			1.633	4	0.178	0.4	0.245	-0.28	1.08
FA6	Australian	96	0	1.633	8	0.141	0.4	0.245	-0.165	0.965
	Chinese			1.633	4	0.178	0.4	0.245	-0.28	1.08
FA7	Australian	0.647	0.444	0	8	1	0	0.787	-1.816	1.816
	Chinese			0	6.482	1	0	0.787	-1.892	1.892
FA8	Australian	0.038	0.85	-0.316	8	0.76	-0.2	0.632	-1.658	1.258
	Chinese			-0.316	7.692	0.76	-0.2	0.632	-1.669	1.269
FA10	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
FA11	Australian	10.894	0.011	2.138	8	0.065	0.8	0.374	-0.063	1.663
	Chinese			2.138	4	0.099	0.8	0.374	-0.239	1.839
FA12	Australian	16	0.004	2.236	8	0.056	1	0.447	-0.031	2.031
	Chinese			2.236	4	0.089	1	0.447	-0.242	2.242
FA13	Australian	16	0.004	2.236	8	0.056	1	0.447	-0.031	2.031
	Chinese			2.236	4	0.089	1	0.447	-0.242	2.242
FA14	Australian	6.377	0.036	0.302	8	0.771	0.2	0.663	-1.33	1.73
	Chinese			0.302	4	0.778	0.2	0.663	-1.642	2.042
FA15	Australian	27.034	0.001	-1	8	0.347	-0.6	0.6	-1.984	0.784
	Chinese			-1	4	0.374	-0.6	0.6	-2.266	1.066
FA16	Australian	27.034	0.001	-1	8	0.347	-0.6	0.6	-1.984	0.784
	Chinese			-1	4	0.374	-0.6	0.6	-2.266	1.066
FA17	Australian	27.034	0.001	-1	8	0.347	-0.6	0.6	-1.984	0.784
	Chinese			-1	4	0.374	-0.6	0.6	-2.266	1.066
FA18	Australian	27.034	0.001	-1	8	0.347	-0.6	0.6	-1.984	0.784
	Chinese			-1	4	0.374	-0.6	0.6	-2.266	1.066
FA19	Australian	27.034	0.001	-1	8	0.347	-0.6	0.6	-1.984	0.784
	Chinese			-1	4	0.374	-0.6	0.6	-2.266	1.066
FA20	Australian	27.034	0.001	-1	8	0.347	-0.6	0.6	-1.984	0.784
	Chinese			-1	4	0.374	-0.6	0.6	-2.266	1.066
IA1	Australian	0	1	0	8	1	0	0.346	-0.799	0.799
	Chinese			0	8	1	0	0.346	-0.799	0.799
IA2	Australian	4.571	0.065	0	8	1	0	0.548	-1.263	1.263
	Chinese			0	4	1	0	0.548	-1.521	1.521
IA3	Australian	0	1	0	8	1	0	0.283	-0.652	0.652
	Chinese			0	8	1	0	0.283	-0.652	0.652
PSA1	Australian	96	0	1.633	8	0.141	0.4	0.245	-0.165	0.965
	Chinese			1.633	4	0.178	0.4	0.245	-0.28	1.08
PSA2	Australian	96	0	1.633	8	0.141	0.4	0.245	-0.165	0.965
	Chinese			1.633	4	0.178	0.4	0.245	-0.28	1.08
FC1	Australian	96	0	1.633	8	0.141	0.4	0.245	-0.165	0.965
	Chinese			1.633	4	0.178	0.4	0.245	-0.28	1.08
FC2	Australian	96	0	1.633	8	0.141	0.4	0.245	-0.165	0.965
	Chinese			1.633	4	0.178	0.4	0.245	-0.28	1.08
FC3	Australian	96	0	1.633	8	0.141	0.4	0.245	-0.165	0.965
	Chinese			1.633	4	0.178	0.4	0.245	-0.28	1.08
QC1	Australian	96	0	1.633	8	0.141	0.4	0.245	-0.165	0.965
	Chinese			1.633	4	0.178	0.4	0.245	-0.28	1.08
OS	Australian	96	0	1.633	8	0.141	0.4	0.245	-0.165	0.965
	Chinese			1.633	4	0.178	0.4	0.245	-0.28	1.08

From the independent Samples Test Table 7.3, the interval of the coefficients shows 95% difference with some margins containing zero, which indicate that the variables are related to project owners' satisfaction. All the Significants p-value which are higher than 0.05 are not significantly different. The variables with Sig p-value less than 0.05 mean that there are significantly different and the first row are used for the interpretation of the analysis (Australia).

According to Sig (2-Tailed) value, the variables (FA7, FA10, IA1, IA2, IA3) from the two Australia and Chinese are statistically significant different. It can be concluding that these variables are the best management approach when it comes to managing the project owners.

Project Sponsors

Here, the author evaluates the difference between the means of Australian and Chinese Project managers managing project sponsors in EPCM projects in Africa. This is to evaluate whether the means for both project managers (Australian and Chinese) are significantly different from each other. If it is different, the best practices will be selected to develop the new stakeholder management framework.

Tables 7.4 shows Independent Samples Test of Australian and Chinese project sponsors.

Table 7.4 Independent Samples Test of Australian and Chinese project sponsors

Independent Samples Test

Code	Group	Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
FA1	Australian	96	0	-2.449	8	0.04	-0.6	0.245	-1.165	-0.035
	Chinese			-2.449	4	0.07	-0.6	0.245	-1.28	0.08
FA2	Australian	0.039	0.849	0.307	8	0.767	0.4	1.304	-2.607	3.407
	Chinese			0.307	7.911	0.767	0.4	1.304	-2.613	3.413
FA4	Australian	7.111	0.029	4	8	0.004	1.6	0.4	0.678	2.522
	Chinese			4	4	0.016	1.6	0.4	0.489	2.711
FA5	Australian	0	1	2.121	8	0.067	1.2	0.566	-0.104	2.504
	Chinese			2.121	8	0.067	1.2	0.566	-0.104	2.504
FA6	Australian	2.415	0.159	-0.784	8	0.455	-0.4	0.51	-1.576	0.776
	Chinese			-0.784	6.202	0.462	-0.4	0.51	-1.638	0.838
FA7	Australian	2.415	0.159	-0.784	8	0.455	-0.4	0.51	-1.576	0.776
	Chinese			-0.784	6.202	0.462	-0.4	0.51	-1.638	0.838
FA8	Australian	0.64	0.447	1.342	8	0.217	0.6	0.447	-0.431	1.631
	Chinese			1.342	6.897	0.222	0.6	0.447	-0.461	1.661
FA9	Australian	2.415	0.159	-0.784	8	0.455	-0.4	0.51	-1.576	0.776
	Chinese			-0.784	6.202	0.462	-0.4	0.51	-1.638	0.838
FA10	Australian	1.756	0.222	0	8	1	0	0.469	-1.082	1.082
	Chinese			0	6.63	1	0	0.469	-1.122	1.122
FA11	Australian	3.881	0.084	1.27	8	0.24	1	0.787	-0.816	2.816
	Chinese			1.27	6.482	0.248	1	0.787	-0.892	2.892
FA12	Australian	96	0	1.633	8	0.141	0.4	0.245	-0.165	0.965
	Chinese			1.633	4	0.178	0.4	0.245	-0.28	1.08
FA13	Australian	0.081	0.783	0.788	8	0.453	0.6	0.762	-1.156	2.356
	Chinese			0.788	7.769	0.454	0.6	0.762	-1.165	2.365
FA14	Australian	0.081	0.783	1.313	8	0.226	1	0.762	-0.756	2.756
	Chinese			1.313	7.769	0.227	1	0.762	-0.765	2.765
FA15	Australian	96	0	2.449	8	0.04	1.8	0.735	0.105	3.495
	Chinese			2.449	4	0.07	1.8	0.735	-0.24	3.84
FA16	Australian	0.411	0.539	0.283	8	0.784	0.2	0.707	-1.431	1.831
	Chinese			0.283	7.082	0.785	0.2	0.707	-1.468	1.868
FA17	Australian	17.053	0.003	-1.5	8	0.172	-0.6	0.4	-1.522	0.322
	Chinese			-1.5	4	0.208	-0.6	0.4	-1.711	0.511
FA18	Australian	96	0	-2.449	8	0.04	-1.2	0.49	-2.33	-0.07
	Chinese			-2.449	4	0.07	-1.2	0.49	-2.56	0.16
FA19	Australian	96	0	-1.633	8	0.141	-0.8	0.49	-1.93	0.33
	Chinese			-1.633	4	0.178	-0.8	0.49	-2.16	0.56
FA20	Australian	96	0	-1.633	8	0.141	-0.4	0.245	-0.965	0.165
	Chinese			-1.633	4	0.178	-0.4	0.245	-1.08	0.28
IA1	Australian	1.524	0.252	1.897	8	0.094	0.6	0.316	-0.129	1.329
	Chinese			1.897	7.692	0.096	0.6	0.316	-0.134	1.334
IA2	Australian	0.696	0.428	1.443	8	0.187	1	0.693	-0.598	2.598
	Chinese			1.443	6.817	0.193	1	0.693	-0.647	2.647
IA3	Australian	1.422	0.267	-0.447	8	0.667	-0.2	0.447	-1.231	0.831
	Chinese			-0.447	5.882	0.671	-0.2	0.447	-1.3	0.9
PSA1	Australian	96	0	-1.633	8	0.141	-0.4	0.245	-0.965	0.165
	Chinese			-1.633	4	0.178	-0.4	0.245	-1.08	0.28
PSA2	Australian	96	0	-1.633	8	0.141	-0.4	0.245	-0.965	0.165
	Chinese			-1.633	4	0.178	-0.4	0.245	-1.08	0.28
FC1	Australian	7.111	0.029	1	8	0.347	0.2	0.2	-0.261	0.661
	Chinese			1	4	0.374	0.2	0.2	-0.355	0.755
FC3	Australian	96	0	-2.449	8	0.04	-0.6	0.245	-1.165	-0.035
	Chinese			-2.449	4	0.07	-0.6	0.245	-1.28	0.08

From the Independent Samples Test Table 7.4, the interval of the coefficients shows 95% difference with some variables containing zero, which indicate that the variables are related to project sponsors satisfaction. All the Significants p-value which are higher than 0.05 are not significantly different. The variables with Sig p-value less than 0.05 mean that there are significantly different. The reading are interpreted using the first row of the variables (Australia).

According to Sig (2-Tailed) value, the variables (FA1, FA4, FA15, FA18, FC3) from the two Australia and Chinese are statistically significant different. It can be concluding that these variables are the best management approach when it comes to managing the project sponsors.

Suppliers

This segment evaluates the difference between the means of the two project managers Australian and Chinese managing suppliers in EPCM projects. This is to evaluate whether the means for both project managers management approached are significantly different from each other. If it is different, the best practices will be selected to develop the new stakeholder management framework.

Table 7.5 shows the Independent Samples Test of Australian and Chinese project suppliers.

Table 7.5 Independent Samples Test of Australian and Chinese suppliers

Independent Samples Test

Code	Group	Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
FA1	Australian	12.053	0.003	-0.387	18	0.703	-0.2	0.516	-1.285	0.885
	Chinese			-0.387	12.081	0.705	-0.2	0.516	-1.324	0.924
FA2	Australian	11.546	0.003	1.406	18	0.177	0.3	0.213	-0.148	0.748
	Chinese			1.406	9	0.193	0.3	0.213	-0.183	0.783
FA3	Australian	9.506	0.006	1.213	18	0.241	0.5	0.412	-0.366	1.366
	Chinese			1.213	10.121	0.253	0.5	0.412	-0.417	1.417
FA4	Australian	0.004	0.948	1.282	18	0.216	0.5	0.39	-0.32	1.32
	Chinese			1.282	17.42	0.217	0.5	0.39	-0.322	1.322
FA5	Australian	0	1	2.121	18	0.048	0.4	0.189	0.004	0.796
	Chinese			2.121	18	0.048	0.4	0.189	0.004	0.796
IA1	Australian	1.148	0.298	-1.251	18	0.227	-0.8	0.639	-2.143	0.543
	Chinese			-1.251	17.79	0.227	-0.8	0.639	-2.145	0.545
IA2	Australian	0	1	0.775	18	0.449	0.2	0.258	-0.342	0.742
	Chinese			0.775	17.308	0.449	0.2	0.258	-0.344	0.744
IA3	Australian	1.531	0.232	-1.8	18	0.089	-0.3	0.167	-0.65	0.05
	Chinese			-1.8	16.691	0.09	-0.3	0.167	-0.652	0.052
IA4	Australian	10.756	0.004	1.633	18	0.12	0.4	0.245	-0.115	0.915
	Chinese			1.633	12.462	0.127	0.4	0.245	-0.132	0.932
IA5	Australian	10.435	0.005	-1.8	18	0.089	-0.9	0.5	-1.95	0.15
	Chinese			-1.8	13.132	0.095	-0.9	0.5	-1.979	0.179
PSA1	Australian	0	1	2.121	18	0.048	0.4	0.189	0.004	0.796
	Chinese			2.121	18	0.048	0.4	0.189	0.004	0.796
PSA2	Australian	0	1	0	18	1	0	0.189	-0.396	0.396
	Chinese			0	18	1	0	0.189	-0.396	0.396
PSA3	Australian	0.75	0.398	0.447	18	0.66	0.1	0.224	-0.37	0.57
	Chinese			0.447	17.92	0.66	0.1	0.224	-0.37	0.57
FC1	Australian	0	1	0	18	1	0	0.141	-0.297	0.297
	Chinese			0	18	1	0	0.141	-0.297	0.297
QC-1	Australian	47.25	0	1.964	18	0.065	0.3	0.153	-0.021	0.621
	Chinese			1.964	9	0.081	0.3	0.153	-0.046	0.646
QC2	Australian	0	1	0	18	1	0	0.141	-0.297	0.297
	Chinese			0	18	1	0	0.141	-0.297	0.297

From the Independent Samples Test Table 7.5, all the Significants p-value which are higher than 0.05 are not significantly different. The reading are done using the first row of the variable. The variables with Sig p-value less than 0.05 mean that there are significantly different.

According to Sig (2-Tailed) value, the variables (FA5, PSA1) from the two Australia and Chinese are statistically significant different. It can be concluding that these variables are the best management approach when it comes to managing the project owners.

Contractors

This section evaluates the difference between the means of the Australian and Chinese project managers managing contractors in EPCM projects in Africa. This is to evaluate whether the means for the two project managers management approaches are significantly different from each other. If it is different, the best practices will be selected to develop the new stakeholder management framework.

Table 7.6 shows the Independent Samples Test of Australia and Chinese project managers managing project contractors.

Table 7.6 Independent Samples Test of Australian and Chinese contractors

Independent Samples Test

Code	Group	Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
FA1	Australian	0	1	0	18	1	0	0.141	-0.297	0.297
	Chinese			0	18	1	0	0.141	-0.297	0.297
FA2	Australian	0	1	0	18	1	0	0.481	-1.01	1.01
	Chinese			0	18	1	0	0.481	-1.01	1.01
FA3	Australian	0	1	0	18	1	0	0.596	-1.253	1.253
	Chinese			0	18	1	0	0.596	-1.253	1.253
FA4	Australian	0	1	0	18	1	0	0.216	-0.454	0.454
	Chinese			0	18	1	0	0.216	-0.454	0.454
IA1	Australian	0	1	0	18	1	0	0.422	-0.886	0.886
	Chinese			0	18	1	0	0.422	-0.886	0.886
IA2	Australian	0	1	0	18	1	0	0.313	-0.657	0.657
	Chinese			0	18	1	0	0.313	-0.657	0.657
IA3	Australian	0	1	0	18	1	0	0.377	-0.792	0.792
	Chinese			0	18	1	0	0.377	-0.792	0.792
IA4	Australian	0	1	0	18	1	0	0.392	-0.823	0.823
	Chinese			0	18	1	0	0.392	-0.823	0.823
IA5	Australian	0	1	0	18	1	0	0.462	-0.97	0.97
	Chinese			0	18	1	0	0.462	-0.97	0.97
PSA1	Australian	0	1	0	18	1	0	0.313	-0.657	0.657
	Chinese			0	18	1	0	0.313	-0.657	0.657
PSA3	Australian	0.9	0.355	0	18	1	0	0.394	-0.829	0.829
	Chinese			0	17.64	1	0	0.394	-0.83	0.83
QC-1	Australian	0.402	0.534	-0.318	18	0.754	-0.1	0.314	-0.761	0.561
	Chinese			-0.318	17.818	0.754	-0.1	0.314	-0.761	0.561
QC2	Australian	0.9	0.355	0	18	1	0	0.394	-0.829	0.829
	Chinese			0	17.64	1	0	0.394	-0.83	0.83
FC1	Australian	0.852	0.368	0	18	1	0	0.383	-0.805	0.805
	Chinese			0	17.596	1	0	0.383	-0.806	0.806

From the Independent Samples Test Table 7.6, Cronbach's Alphas test of both have 0.760 and 0.748, which indicate that the variables are related to contractors' satisfaction. All the Significants p-value in the table have p-value higher than 0.05 therefore, they are not significantly different.

According to Sig (2-Tailed) value, all the variables from the two Australia and Chinese are not statistically significant different. It can be concluding that the management approaches are similar when it comes to managing the contractors as made known in Section 7.2. This finding is different to what Ping and Partington (2003) claim that Australian project management approach is difference to Chinese project managers. However, the finding is consistent with Chen, Partington and Wang (2007) who claim that Western project management theories and practices have become increasingly recognized and dispersed in China, particularly in construction-related work.

Project Team Members

Here, the author evaluates the difference between the means of Australian and Chinese Project managers managing Project Team Members in EPCM projects in Africa. This is to evaluate whether the means for both project managers management approaches are significantly different from each other. If it is different, the best practices will be selected to develop the new stakeholder management framework.

A table 7.7 shows Independent Samples Test of Australian and Chinese Project Team Members.

Table 7.7 Independent Samples Test of Australian and Chinese team members

Independent Samples Test

Code	Group	Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
FA1	Australian	.	.	3	18	0.008	0.5	0.167	0.15	0.85
	Chinese			3	9	0.015	0.5	0.167	0.123	0.877
FA2	Australian	2.568	0.126	6.678	18	0	2.1	0.314	1.439	2.761
	Chinese			6.678	14.849	0	2.1	0.314	1.429	2.771
FA3	Australian	0	1	0.535	18	0.6	0.2	0.374	-0.586	0.986
	Chinese			0.535	17.982	0.6	0.2	0.374	-0.586	0.986
FA4	Australian	3.645	0.072	7.117	18	0	2.2	0.309	1.551	2.849
	Chinese			7.117	14.266	0	2.2	0.309	1.538	2.862
FA5	Australian	0.104	0.75	1.909	18	0.072	0.7	0.367	-0.07	1.47
	Chinese			1.909	17.901	0.072	0.7	0.367	-0.071	1.471
IA1	Australian	13.5	0.002	0	18	1	0	0.258	-0.542	0.542
	Chinese			0	9	1	0	0.258	-0.584	0.584
IA2	Australian	91.125	0	3.498	18	0.003	1.1	0.314	0.439	1.761
	Chinese			3.498	9	0.007	1.1	0.314	0.389	1.811
IA3	Australian	91.125	0	3.498	18	0.003	1.1	0.314	0.439	1.761
	Chinese			3.498	9	0.007	1.1	0.314	0.389	1.811
IA4	Australian	5.219	0.035	5.532	18	0	1.7	0.307	1.054	2.346
	Chinese			5.532	14.332	0	1.7	0.307	1.042	2.358
IA5	Australian	1.77	0.2	1.187	18	0.251	0.7	0.59	-0.539	1.939
	Chinese			1.187	14.82	0.254	0.7	0.59	-0.558	1.958
PSA1	Australian	3.361	0.083	5.532	18	0	1.7	0.307	1.054	2.346
	Chinese			5.532	15.133	0	1.7	0.307	1.045	2.355
PSA2	Australian	0	1	4.346	18	0	1.6	0.368	0.826	2.374
	Chinese			4.346	18	0	1.6	0.368	0.826	2.374
PSA3	Australian	4.594	0.046	5.301	18	0	1.6	0.302	0.966	2.234
	Chinese			5.301	14.54	0	1.6	0.302	0.955	2.245
FC1	Australian	2.568	0.126	6.678	18	0	2.1	0.314	1.439	2.761
	Chinese			6.678	14.849	0	2.1	0.314	1.429	2.771
QC-1	Australian	57.037	0	-4.977	18	0	-1.7	0.342	-2.418	-0.982
	Chinese			-4.977	10.673	0	-1.7	0.342	-2.455	-0.945
QC2	Australian	2.568	0.126	6.678	18	0	2.1	0.314	1.439	2.761
	Chinese			6.678	14.849	0	2.1	0.314	1.429	2.771

From the Independent Samples Test Table 7.7, the interval of the coefficients shows 95% difference with some variables containing zero, which indicate that the variables are related to the team members' satisfaction. The reading is taken to mean using the first row from the variables. All the Significants p-value which are higher than 0.05 are not the same values such as (FA3, FA5, IA1, IA5). The variables with Sig p-value less than 0.05 mean that there are significantly different.

According to Sig (2-Tailed) value, the variables (FA3, FA5, IA1, IA5) from the two Australia and Chinese are not statistically significant different. It can be concluding that these variables are not the best management approach when it comes to managing the project team members.

Government

This segment evaluates the difference between the means of the two project managers Australian and Chinese managing project government in EPCM projects. This is to evaluate whether the means for both project managers management approached are significantly different from each other. If it is different, the best practices will be selected to develop the new stakeholder management framework.

Table 7.8 shows the Independent Samples Test of Australian and Chinese project suppliers.

Table 7.8 Independent Samples Test of Australian and Chinese government members

Independent Samples Test

Code	Group	Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
FA1	Australian	7.111	0.029	-1	8	0.347	-0.2	0.2	-0.661	0.261
	Chinese			-1	4	0.374	-0.2	0.2	-0.755	0.355
FA2	Australian	7.111	0.029	1	8	0.347	0.2	0.2	-0.261	0.661
	Chinese			1	4	0.374	0.2	0.2	-0.355	0.755
FA3	Australian	7.111	0.029	-1	8	0.347	-0.2	0.2	-0.661	0.261
	Chinese			-1	4	0.374	-0.2	0.2	-0.755	0.355
FA6	Australian	0	1	0	8	1	0	0.529	-1.22	1.22
	Chinese			0	8	1	0	0.529	-1.22	1.22
FA7	Australian	1.756	0.222	0.426	8	0.681	0.2	0.469	-0.882	1.282
	Chinese			0.426	6.63	0.683	0.2	0.469	-0.922	1.322
IA1	Australian	1.133	0.318	1.177	8	0.273	0.6	0.51	-0.576	1.776
	Chinese			1.177	7.596	0.275	0.6	0.51	-0.587	1.787
IA2	Australian	0	1	0.577	8	0.58	0.2	0.346	-0.599	0.999
	Chinese			0.577	8	0.58	0.2	0.346	-0.599	0.999
PSA1	Australian	0	1	0	8	1	0	0.346	-0.799	0.799
	Chinese			0	8	1	0	0.346	-0.799	0.799
PSA2	Australian	7.111	0.029	1	8	0.347	0.2	0.2	-0.261	0.661
	Chinese			1	4	0.374	0.2	0.2	-0.355	0.755
FC2	Australian	0.33	0.582	-0.343	8	0.74	-0.2	0.583	-1.545	1.145
	Chinese			-0.343	7.758	0.741	-0.2	0.583	-1.552	1.152
QC1	Australian	0.33	0.582	0.343	8	0.74	0.2	0.583	-1.145	1.545
	Chinese			0.343	7.758	0.741	0.2	0.583	-1.152	1.552

From the Independent Samples Test Table 7.8, the interval of the coefficients shows 95% difference with some variables containing zero, which indicate that the variables are related to government members' satisfaction. All the Significants p-value in the table are higher than 0.05 are not the same.

According to Sig (2-Tailed) value, all the variables from the two Australia and Chinese are not statistically significant different. It can be concluding that the management approaches are similar when it comes to managing the government members. This finding is different to what Ping and Partington (2003) claim that Australian project management approach is difference to Chinese project managers. However, the finding is consistent with Chen, Partington and Wang (2007) who claim that Western project management theories and practices have become increasingly recognized and dispersed in China, particularly in construction-related work.

7.7 Best practices of Australian and Chinese

The goal here is to design an alternative stakeholder management approach with a combination of the best practices from each of the Australian and Chinese approaches.

The points below are the best practices from the management methods of Australian and Chinese project managers managing EPCM projects.

- clear contract
- management partaking
- formal and informal report
- formal and informal feedback
- quality of communication
- formal and informal interaction with stakeholders
- corporate social responsibility
- frequency of complaints less
- quality communication with stakeholders
- feedback from stakeholders

- key performance index
- formal and informal interaction with stakeholders
- Frequency and quality of training

This new management approach is a combination of best approaches identified in Chapter 5 Section 5.2.4, Chapter 6 Section 6.2.6 and the best practices identified in Section 7.6 of Australian and Chinese project managers managing EPCM projects as presented in Table 7.9.

The best approaches from the field observations and the management methods of Australian and Chinese project managers managing EPCM projects are shown in Table 7.9.

Table 7.9: Best management methods from the Australian and Chinese EPCM project firms in Africa

Best management methods from the Australian	**Best management methods from the Chinese**
Project governance structure	Diplomatic relations between Chinese and African governments
PM open to communicate with the stakeholders	Respect for all participants
Weekly meeting to inform the project team members	Live together
Monthly report to project sponsor	Respect the company law and rules
Relationship between PM and project stakeholders	Joint ventures between African and Chinese firms
Communities and government member being informed of the project activity.	Build long-term relationship between African government and the company
Quality of communication with management team	Focus on project delivery date line and cost
Clear contract	Clear contract
Management partaking	Quality of communication with project team
Formal and informal report	Formal report
Formal and informal feedback	Corporate social responsibility
Frequency of interaction with stakeholders	Quality communication with stakeholders
Feedback from stakeholders	Key performance index

Key performance index	Formal interaction with stakeholders
Corporate social responsibility	
Frequency and quality of training	

7.8 Best practices

The combination of Chapters 5 and 6 had helped to develop the following figure which represents the best practices developed from the literature review and observations.

Overall, these identified best practices from the field observations of each approach constitutes the foundation of the new stakeholder management theory that is going to be recommended in this Chapter as these are merged with further adjustments and improvements –see Figure 7.2.

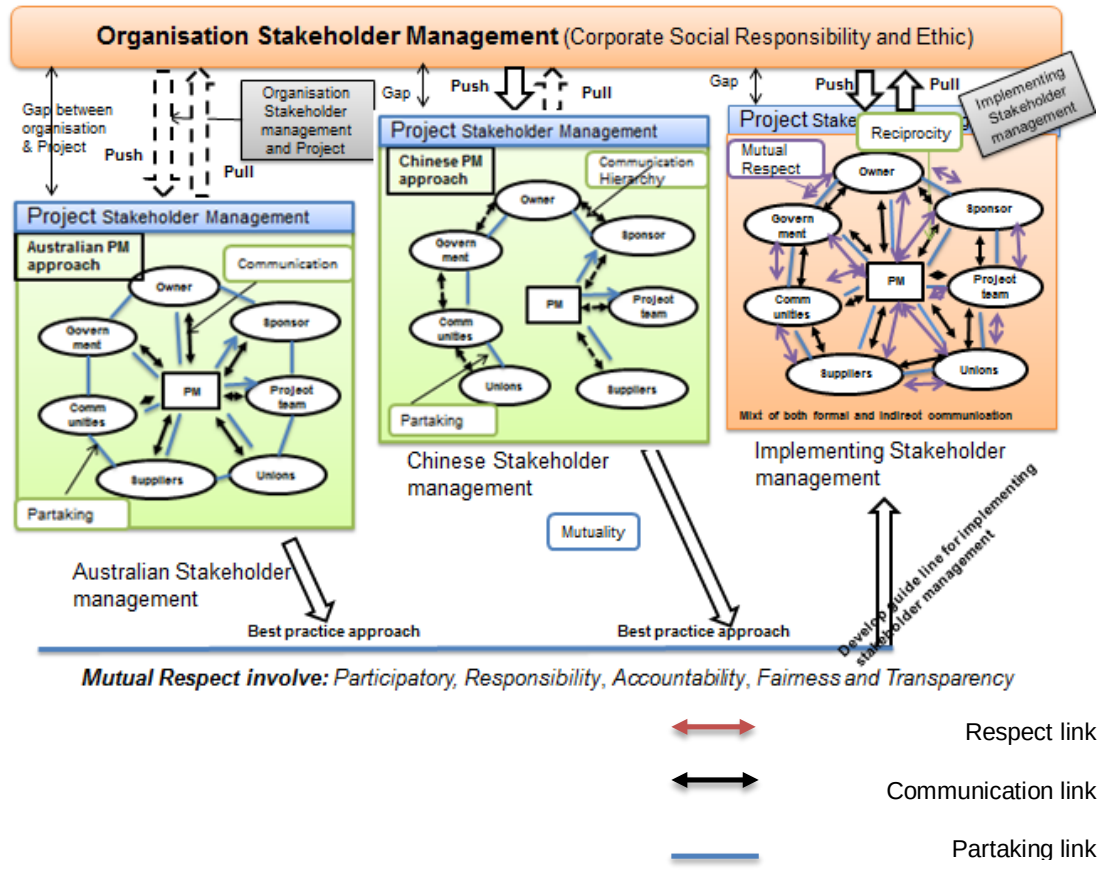


Figure 7.2 Embody the existing stakeholder management approaches

Figure 7.2 is developed based on the information collected from the literature and field observations research results in Chapters 5 and 6. The first figure (Australian stakeholder management approach) is the figure developed in section 5.2.1 from literature and field observation, it shows a significant gap between organisation and the project. This is due to the company specifically recruited the project manager for the project and most of the time so that he/she hit the ground running without time to understand the company value. The communication between the organisation and the project is reciprocal but appeared very weak based on the field observation as presented in section 5.2.1. Secondly, in the Australian project environment, there is reciprocity when it comes to the communication between project managers and the stakeholders as presented in section 5.2.1.

The second figure shows the Chinese stakeholder management approach presented in Chapter 6, section 6.2.3. The finding from the field observation reveals the gap between the organisation and the project is significantly narrower by means of the project manager being in the company for a long time and he/she knows the values of the company. However, the communication between the company and the project is one-sided because of the hierarchy structure of the Chinese organisations see figure 6.1. Next, the communication between the project managers and the stakeholders is not mutual due to the hierarchy structure. Furthermore, the communication between the project managers and the community and government is indirect. Finally, the new stakeholder management model in the third box in the figure is the combination of the best approaches from the Australian and Chinese model. It shows that the gap between the organisation and the project is contracted and the communication between them is reciprocal. The communication between project managers and the stakeholders is mutual and, most importantly, there is mutual respect between project manager and stakeholders and stakeholders and stakeholders. The mutual respect is the key of stakeholder management in EPCM projects in Africa.

7.9 Towards contributing to stakeholder management conceptual theory

Project management has dynamically improved since the introduction of the profession in the industry. Taylor and Finer (2012) illustrates the improvement of the history of project management in four phases, the stakeholder management theory needed to follow the progression of understanding of project management. The first phase is project management started as organic development to support the great construction around the world through experience. This was exercised to support projects such as the construction of the Stonehenge, pyramid, the Great Wall of China and others. The second phase is what most people know which is the use of the tools, techniques and process to manage project. The use of process such as: Gantt chart, PERT, Critical part method etc… The third phase is known as changes to attitude and behaviours such as: how project manager should behave, team building etc… Finally, project management has become complex and virtual otherwise critical (complexity and criticality phase) and project stakeholders are more knowledgeable. It requires project managers to engage more with stakeholders. When the project management was organic and process, project success was measured using the triple constrains and stakeholders were not informed and engaged in the project as today. Therefore, stakeholder management theory developed by Donaldson and Preston (1995) was useful. Nowadays, the project that does not meet the expectations of its stakeholders is not likely to be regarded as successful. For that reason, a theory of stakeholder management that accommodated the management of project stakeholders is needed. With the complexity and criticality of the project management today, it is much more accurate to view stakeholders as individuals with interests in the project, but with non-linear relationships between them. The relationship between stakeholders is a complex interdependency between causes, and causes and effects are imprecise. As presented in Chapter 3, a new theory that “a set of substantive propositions that are, in principle, capable of being tested because they attempt to be predictive” is needed for the management

of stakeholders. It was presented in Chapter 3 it exists two point of departure when it comes to theory (rational and affective). The problem with rational theory is that it rarely works: it is an oversimplification of reality when it deals with individuals.

Up until now, no one has provided a comprehensive theory of stakeholder management. This study proposes a contribution to the stakeholder management theory base on the formality, participation and communication level of project managers. The contribution to the stakeholder management theory derives from the substantive propositions developed in Chapter 3, tested in from the data analysis of this study. This research put forward a significant contribution to the stakeholder management conceptual theory that can be classed as an “accustom theory”. The new stakeholder management framework is developed on the basic to contribute towards the stakeholder theory postulation of the assumptions presented in Chapter 3 Section 3.6 and validated in Section 7.3.

Accustom theory is a new stakeholder management conceptual theory. It deals with the hard skills (which is the craft of stakeholder management) which are the processes, the soft skills (described as the art of project leadership) which are the attitude and behaviours of PMs, and the power structure skills (the ability to read the power structure of the stakeholder ecology and the willingness to operate in that environment) which is the understanding of the complexity and the creativity of the PMs when managing stakeholders.

Hard skills is as process in which project managers used to potentially deliver a successful project while soft skills is the emotional, intuition, communication, interpersonal skill and leadership project managers use to manage the process which deliver the project successfully. The important skill is the line between hard skills and soft skills which is defined as “guanxi”, the power structure skills. The power structure skills is the caution, values, critical, understanding why some stakeholders do not fit within the group and take action to make them feel acceptable for the purpose of the project, and

the benefits stakeholders convey and gain within the project stakeholders group.

7.10 Propositions

In this section, the assumptions that were built following the aggregation of the literature as presented in Chapter 3; Section 3.5 are revisited and discussed. It is assumed that all groups of stakeholders are equally weighted so that these general assumptions can conclude on the number of stakeholder's groups that were satisfied.

Assumption 1:

> Project managers are responsible to manage the stakeholder ecology presented in the methodology using the management formality.

From field observation and questionnaires, it can be concluded that project managers' responsibility is to organize and coordinate relationships between stakeholders in the means that satisfy stakeholders.

As stated in the chapter 3 regarding soft skills, the general assumption is that maintaining informal "guanxi" will enhance stakeholder satisfaction? The difficulty lies in the measurement of "guanxi". However, it can reasonably be said that more effective communication, either formal or informal, will improve "guanxi" and hence stakeholder satisfaction.

Assumption 2:

> The more sensitive PMs are to diverse stakeholder expectations, the higher the level of participation by the stakeholders to the project.

From field observation and questionnaires, it can be said that the more project manager is sensitive and partaking, the more the stakeholders are participative into the project. Therefore, there is an association between the sensibilities of project managers in regards to diverse stakeholders and the more they participated in the project. This is supported by the new accustom

stakeholder management theory. The power structure skills (the ability to read the power structure of the stakeholder ecology and the willingness to operate in that environment).

Assumption 3:

> The greater the quantity and better the quality of communication, the higher the stakeholder satisfaction level.

The field observation and questionnaires confirming that the better the quality and quantity of communication the higher the stakeholders' satisfaction level.

Assumption 4:

> The stakeholder management model will enhance stakeholder satisfaction.

From field observation and questionnaires, it can conclude that the new stakeholder management model presented in section 7.11 will enhance stakeholder satisfaction.

Assumption 5:

> This stakeholder satisfaction will improve the project success

From stakeholder management model presented in section 7.10, it can be seen that the stakeholder satisfaction will improve the project success.

7.11 Managing stakeholders in EPCM projects in Africa

From Chapter 5, 6 and section 7. 4 and 7.6.1, or a summary of the best approaches presented in table 7.9, two main points are highlighted when it comes to managing EPCM project stakeholders in Africa: respect and partaking. Respect was found to be the most important aspect for project stakeholders, including community, government members, project team

members, suppliers and contractors expect from the project managers. Partaking is the next important point. Stakeholders want to see the project manager participate in their cultural ceremonies, activities and most importantly the other members of project leadership when visiting the project to stop in the village and greet them. Those two points involve the following means: Participatory, Responsibility, Accountability, Fairness and Transparency.

Participatory: other members of project leaders mostly greet the community members and participle in the local ceremonies and activities. Responsibility: project managers must be responsible for the assets and actions of the company. Accountability: project managers most justifying its decisions and actions to stakeholders. Fairness: project managers most consider the legitimate interest of stakeholders. Transparency: project companies are required to disclose information in a manner that enables stakeholders to make informed decisions about the Company's performance and sustainability. Respect: respect is centred on engaging African stakeholders tailored to the participation to the local ceremonies and activities. Project manager most learn the custom of the environment. From the data analysis in Chapters 5, 6 and Section 7.5 shown in Table 7.9, the following points have been perceived as best approaches that project managers managing EPCM projects in Africa should take on.

Project Organogram and stakeholders map: to achieve the satisfaction level of project team members and other stakeholders, a project manager is required to have a visual project organogram with the job titles and names of the team members on it, and a copy must be sent to project sponsors, project team members and project contractors/suppliers at the beginning of the project. Ross (2009), Müller (2009),Patrick and Renz (2007), Bourne and Walker (2006) argue that project governance and stakeholders map is a critical element of any project since the accountabilities and responsibilities associated with an organization's business-as-usual activities are laid down in their organizational governance arrangements. Stakeholders' maps assist project managers to understand who the key stakeholders are, where they come from, and what they are looking for in relationship to the project.

Relationship between project manager and project stakeholders: As it was seen from both Australian and Chinese approaches, it is important for the project management team to have an open, flexible and respectful relationship with project stakeholders. This is characterized by communicating/interacting (formally and informally depending on the circumstances and the importance of the information being transferred). Thomson (2010), and Crawford and Brett (2009) argue that relationships between project managers and project stakeholders improves the project's progress and reduces conflict among stakeholders. Project managers' reflections on the emerging project solution help stakeholders to better understand their needs. Dissatisfaction results when these emergent requirements are not acknowledged.

Project manager open to communicate with the stakeholders: On a request of information from a stakeholder, the project manager must be responsive and mostly proactive to avoid any feeling of exclusivity from the stakeholder's side. Bourne and Walker (2006), and Van Staden et al. (2002), claim that project managers must not take communication lightly when managing a project. PMI's (2013) Pulse of the Profession report reveals that the most crucial success factor in project management is effective communications to all stakeholders. The research also finds that effective communication leads to more successful projects and hence allowing organizations to become high performers.

Weekly meeting to inform the project team members: the project manager is requested to meet his/her working team and contractors/suppliers on a weekly basis to redefine the target of the week, based on whether there is a delay in the overall project schedule. Sisco (2002) argues that one of the most valuable tools PMs have is a weekly project status meeting.

Monthly report to project sponsor, community, and government members: it is the obligation of the project manager to formally inform the project sponsor, owner, and other stakeholders of the progress of the overall project and highlight concerns, if any. Crawford and Brett (2009) argue that a

monthly report is important for a PM to keep stakeholders informed about the project's progress.

Project manager partaking in the community meeting and ceremony: empirical researches have shown that the community members appreciate and welcome a friendly visit/initiative of the project leader. Therefore, we request the project manager and any project leader to stop if possible for greetings with community members, to eat from their local restaurants from time to time, participate if possible in charity activities and pay a visit to the local community leader from time to time depending on his/her availability.

Communities and government members being informed of the project activity: this approach gives the right to the community and government members to be informed of the progress of the project including the major project milestones through monthly meetings.Walker et al. (2008) argue that by informing the community and government member, they are much more informed about the project and their involvement and are more active in the project.

Diplomatic relations between firms and the African government: A liberal bilateral diplomatic relationship between the two governments involved is required with a "win-win" negotiation manner, and no interference or influence of international organism such as the IFM, UN, World Bank, etc. Brautigam 2009, Gordon and Yang 2012, and Keith 2014 argue that a bilateral diplomatic approach improves the relationship.

Respect for all participants: the project management team, including expatriates, have to respect each other and all stakeholders though mutual acceptance and collaboration for the success of the project. This includes accepting and respecting each other's culture, religion, tradition, personal differences. With regards to this, the Chinese approach is highly recommended for their friendly attitude of living with their team members in the same site accommodation. The project manager should dress according to the group of stakeholders that he is meeting. That is dressing like a team member (PPE) while on the site, and formal while meeting government members, and casual when meeting with the community members. Wong

and Chan (1999), Lee (1996), Chen and Partington (2003), Pinto (1998), Bourne (2005), Karlsen et al. (2008), and Walker et al. (2008) argue that by respecting all stakeholders, the project manager creates trust and efficient relationships management between them.

Respect the company law and rules: As a normal employee, the project manager is required to become familiar with the company's procedures and policy to protect him and ensure a certain level of ethical standards in his work and the conformity of his behaviour. Chen and Partington (2003) argue that the Chinese mostly respect the company law and rules as they express a strong self-identity as a company employee.

Joint ventures between African and EPCM firms: Forming joint ventures with African EPCMs will allow foreign EPCMs to participate in the African managerial skill transference/improvement, and mostly to ensure that once delivered, the project deliverables will be maintained. It is very important that a certain proportion of team members come from the guess country in particular the guess region as well as few of them from the guess locality/community. Chen and Partington (2003) argue that joint ventures help educate weak venture parties and the knowledge is shared when they work closely with them as one family.

Focus on project delivery date line and cost: it is strongly believed in academic circles (Walker et al., 2008) that today, by focusing on the project triple constraints (scope, time and cost), it is not as important as focusing on organizing and coordinating interaction between and within different groups of stakeholders. Therefore, beside planning and controlling, the project manager's role should be oriented in organizing and coordinating relationships among stakeholders.

Formal contractual: Yu (2014) argues that the contractual arrangement depends on the advance stage of the economic development of the country. Therefore, it is important to understand the economic environment of the country where the EPCM project is taken on before choosing the contractual arrangement. It is convenient that any participant is linked to the project by a signed contract for the adaptive of efficiency.

Informal contractual: The project manager should to a certain extent be allowed to informally outsource some services within the project framework. For example, it is not necessary to have a formal contract with casual workers.

Mix of formal and informal contractual: Yu (2014) argues that formal and informal contractual arrangements play important roles in economic development of the country. It appears that economic actors in developing countries rely on self-enforcing informal contractual arrangements first and adopt more formal arrangement when these are feasible (Yu, 2014). The Mix of formal and informal contractual mechanisms is of great importance in EPCM project environment.

Communication: Communication is a process of exchanging information using common system of symbols, signs or behaviours (Cleland, 1994). It is interpersonal or organisational; it involves both the communicator and the understanding. It is good and advisable to communicate formally; however, the project manager should be flexible with regard to the communication channel and the importance of the information being transferred. Hersey et al. (2001) claim that communicating effectively is sending a message in a way that the receiver can understand and accept that message. It was found that there is a high flow of communication of low quality from the Australian management approach, and a low flow of communication of high quality from the Chinese management approach. Therefore, it is essential that there must be as much communication/interaction as possible between the project management team and the rest of the stakeholders, with a great attention to the quality of information; and there must be a tracking system to record important information. Communication is an important component in building and maintaining relationship with stakeholders (Briner et al., 1990)

Project managers have to take in to consideration the interconnection of the stakeholders in EPCM and that a relationship failure with one group will automatically create crises within the stakeholder ecology.

Adjustments

Social Network: With the advent of new information technologies and the importance of communication in the project environment, we believe that social networks can be of great importance to improve the flow of information within and between the groups involved in the project. It is thus recommended that there should be a sharing group through a social network (WhatsApp, Facebook, bbm, etc.) where team members can share their experiences and jokes, and most importantly for quick notifications.

Power sharing: The project manager should learn how to delegate responsibilities to other team members. By delegating project tasks to others allows him to organise and coordinate relationships with stakeholders.

Flexibility and sensitivity: the project manager is commended to be humble and flexible enough to adapt in different environment. He should be sensible to the culture and custom of the community around him. For example, project managers must be less formal with the community and team members. Project managers most stop when passing in the villages and greet the community; he can also go to the community and greet people.

7.12 New Stakeholder management framework in EPCM project

From the best practices of Australian and Chinese project managers managing EPCM projects in Africa (identified using Independent Sample t-tests and the methods highlighted in Section 7.11), the new stakeholder management framework is developed to support project managers managing EPCM projects. The factors which were statically significant from the table 7.1 to 7.8 are used (Please refer to Section 7.3 for details results). The framework is developed from a structured method of reasoning flow from the assumptions and the findings of the study.

The stakeholder management indicates precisely how each variable lead to desired satisfaction of stakeholders (project success). The framework is non-linear and flexible. The development of the framework is based on the stakeholder management (accustom stakeholder management theory) which describes the skills project managers need to develop to establish a relationships among the range of stakeholders.

Traditionally, managing large EPCM projects has been driven by the project triple constraints (scope, time, and cost). The framework for managing EPCM can be derived from the new stakeholder management framework and the from the structure manner setup by Peyton et al. (2012).

The independent Samples t Test of elements of the data from the Australian and Chinese EPCM projects has supported the development of this framework. The framework shows the interconnectivity between project management approach and management process with the whole stakeholders, and stakeholders satisfaction.

Figure 7.2 depicted the aggregation of the two stakeholder management practices. The development of the new stakeholder management framework is facilitated by the conceptual stakeholder management Accustom theory principle of EPCM projects to enable project managers managing EPCM projects. This helps PMs to understand what makes project stakeholders world tick so that they can manage them better to achieve project success. The framework provides project managers basic principle and performance requirements and results, relevant to the specific task in hand, as well as to understand how these requirements fit within project management environments. It allows stakeholders to understand their roles and responsibilities within the bigger picture. It supports project managers to integrate the objectives and behaviours of stakeholders within their daily activities. It helps understand the common need stakeholders have therefore, it is important that project managers link together stakeholders understanding that their satisfactions are tied to the project success.

- **Project Organisation:** project organisations have to make sure his country of origin and the host country have diplomatic relations.

Project firms have to go in Joint ventures with African and EPCM firms where and when it is possible (Brautigam, 2009; Wong and Chan, 1999; Chen, 2009).

- **Project manager:** Project managers have to manage the reciprocal relationship between firms and the African government. PMs have to have formal contract with the project, he has to make sure that all other employees, supplier, contractors and consultant have contract with the project (from results of findings in Table 7.1).
    - Develop a project organogram and stakeholders map and share with all the stakeholders.
    - PMs have to be Flexibility and sensitivity to adapt in different environment
    - Respect stakeholders culture, believe and ceremonies, use the respect model presented in section 7.3
    - open to communicate with the stakeholders
    - Provide work to local community and sourcing materials and equipment from local entrepreneurs.
    - Manage the Joint ventures between African and EPCM firms
    - Manage the environment degradation the project cause (i.e. noise, dust, logging) effectively.
    - Formally and informally communicate with the stakeholders.
    - Respect the organisation policy and standards
    - Frequently communicate with the stakeholders
    - Provide necessary information to different stakeholders group or individuals.
    - Use social Network or new information technologies to share information in the project environment

- **Project owners:** The project owners have to make sure the information provided by the project managers are up-to-date (from results of findings in Table 7.3).
    - Makes sure that PMs achieve the company vision on the project.
    - Engage with other stakeholders

  - Respect stakeholders culture, believe and ceremonies, use the respect model presented in section 7.3
  - Visit the construction site often and engage with the community.

- **Project sponsor:** The project sponsors have to manage the reciprocal relationship between firms and the African government. Project sponsors have to engage with other stakeholders formally and informally, make sure the information provided by the project managers are up-to-date (from results of findings in Table 7.4).

  - Makes sure that PMs achieve the company vision on the project.
  - Respect stakeholders culture, believe and ceremonies, use the respect model presented in section 7.3
  - Visit the construction site often and engage with the community.
  - Use social Network or new information technologies to share information in the project environment
  - Participate to other stakeholders culture, ceremonies and manifestations

- **Community members:** community members have to engage with the project for work, procurement opportunity and project activities (from results of findings in Table 7.2).
  - Request a formal and informal report regarding the project from the project managers.
  - Request a frequent report from the project managers
  - Provide formal and informal feedback to project managers.
  - Invite project managers and leaders for cultural activities and activities.

- **Contractors/ suppliers:** suppliers have to have a clear contract with the projects formal or informal (from results of findings in Table 7.5 and 7.6).
  - Engage with other stakeholders

  - Interact often with the project managers formally or informally.
  - Request information when needed.
  - Provide formal or informal to project managers.
  - Participate to cultural ceremonies or activities

- **Government members:** government members have to support the project managers (from results of findings in Table 7.8).
  - Engage with the PMs and other stakeholders
  - Interact with formally or informally with the project managers.
  - Request information regarding the project from the PMs.
  - Visit the work site often.
  - Provide feedback to project managers.
  - Make sure that PMs follow the country laws and rules.
- **Project team member:** the project team members have to support the project managers (from results of findings in Table 7.7).
  - Committed to the project's delivery.
  - Interact formally and informally with the PMs.
  - Engage with other stakeholders
  - Assist to project meetings.
  - Participate to community culture, activities and ceremonies.
  - Provide formal and informal feedback to project managers.
  - Request for training from PMs if necessary.

Figure 7.3 illustrates the visual representation of the framework. It allows stakeholders to understand their roles and responsibilities within the bigger picture. It supports project managers to integrate the objectives and behaviours of stakeholders within their daily activities. It helps understand the common need stakeholders have therefore, it is important that project managers link together stakeholders understanding that their satisfactions are tied to the project success.

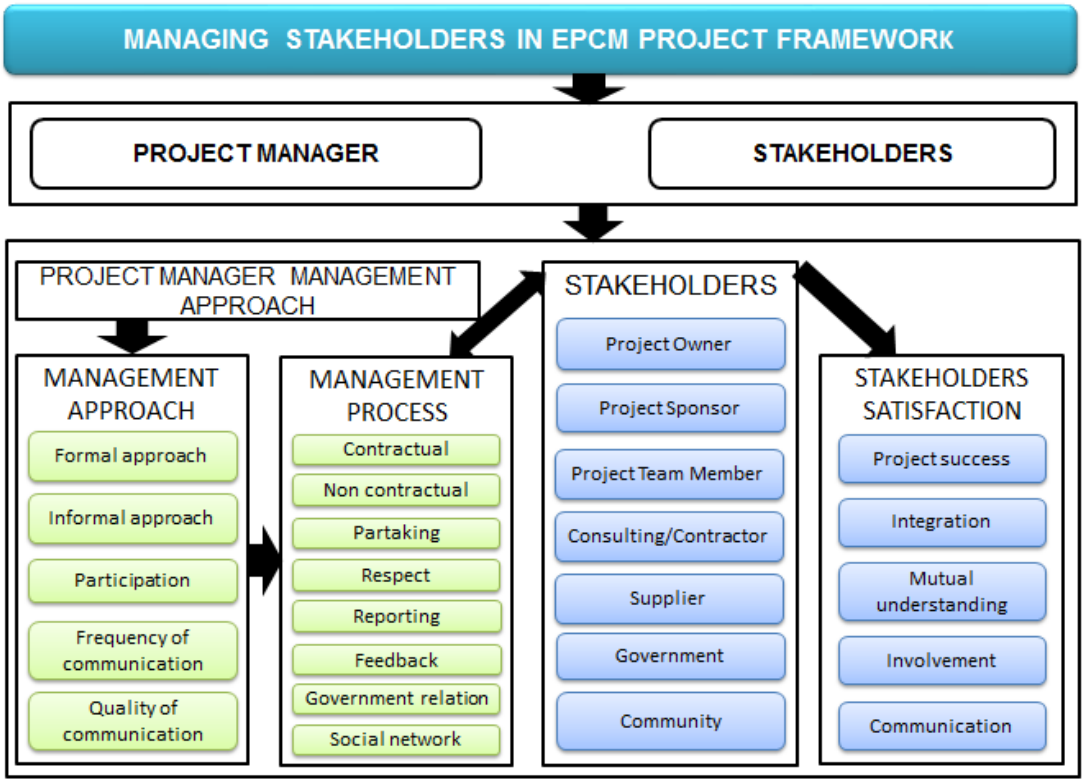


Figure 7.3 New stakeholder management framework

7.13 Summary

This chapter started by first offered the management approach of the Chinese and Australian. Second the hypotheses of the developed for the study were tested. The correlation of each factor among projects managed by Australian firms and then among projects managed by Chinese firms was done separately. Third, the best practices of Australian and Chinese project managers were calculated from the descriptive statistics with the means and standard deviations. Finally, the new accustom stakeholder management theory was used to develop the new stakeholder management framework from the best practices of Australian and Chinese approaches with adjustment.

The new stakeholder management framework requires that PMs to use formal and informal management styles and be flexible in regards to communication channels and the importance of the communication being

conveyed by reports, feedbacks, interactions. PMs should use social networks to improve the flow of information within and between the groups involved in the project. PMs should communicate frequently and convey high quality information. PMs should delegate more work to the project team members and focus on managing relationships. He should develop the power structure skills to manage the different group of stakeholders.

Project success relies upon the right people or group having the right quality of information at the right time and doing the right things.

Chapter 8 will summarise all earlier parts of the thesis prior to making conclusions about the research described in those earlier parts; that is, Section 8.2 will repeat the research problem and the research issues/propositions.

Chapter 8

Conclusions and Recommendations

8.1 Introduction

This chapter develops a conclusion to the thesis by discussing the research findings from Chapter 5, Chapter 6 and Chapter 7 in order to answer in relation to the research objectives stated in Chapter 1 Section 1.4. The Chapter starts by summarising the research findings related to the research objectives. It then discusses the potential contribution that this study makes to stakeholder management theory, EPCM project practice. Finally, the chapter ends with a discussion of recommendations arising from this study and recommendations for future research.

8.2 Main Research Findings

The main research premise was stated in Chapter 1 (Section 1.3) as:

A critical review of the literature reveals the importance of stakeholder management as a means of improving project success, but it does not sufficiently describe mechanisms through which PMs can be embedded in the EPCM projects operating in a different cultural environments. This may result in an ongoing higher risk of failing to deliver successful projects which satisfy stakeholders.

Of the premise stated above, certain questions were generated and have been addressed:

1. What is stakeholder theory?
2. How do Australian and Chinese project managers manage stakeholders in EPCM projects in Africa?

3. How can stakeholder management practice be improved by drawing on the strengths of both Chinese and Australian approaches?

8.2.1 What is stakeholder theory?

This research question is build up in Chapter 3 and answered here. The research presented an account of the confusion in stakeholder management theory, and demonstrated how corporate social responsibility theory shadows stakeholder management theory. The review of previous research on stakeholder management addresses the answer to the question. It provides an overview of how stakeholder theory has been discussed in the research to date. The approach to develop a new stakeholder management theory has been identified as being vital for large EPCM projects. It is found that up until now, no one has provided a comprehensive theory of stakeholder management. This study proposes a new conceptual stakeholder management framework which contributes to the conceptual stakeholder management theory that can be classed as an “accustom theory”. . It deals with the hard skills (which is the craft of stakeholder management), the soft skills (described as the art of project leadership), and the power structure skills (the ability to read the power structure of the stakeholder ecology and the willingness to operate in that environment).

8.2.2 How do Australian PMs manage stakeholders in EPCM projects in Africa?

It was found that the Australian PMs have a formal management approach when it comes to a general view of the company. Their choices of African managers are political. Nevertheless, they have project organograms to allow the project team to know individual responsibilities and the communication channel. In addition, Australian PMs develop a good relationship with the project sponsors and they are open to communicating with the stakeholders. Furthermore, Australian PMs have a weekly meeting

with the project team members and contractors. However, for Africans, it can be considered an honor to work for (and with) an Australian “Anglo-Saxon”.
Summary of Chapter 5, Australian PMs managing individual stakeholders in EPCM projects in Africa.

- **Community members:** It is found that the local community members are satisfied with an informal feedback, participation to activities and the frequency of communication about the project activities of the Australian PMs.
- **Contractors/ suppliers:** The contractors are satisfied with regard a formal and clear contract, the interaction with the PMs, the frequency of communication about the project activities and the leadership of the Australian PMs’ management approach.
- **Government members:** It is seen that the government members are satisfied with the terms and conditions of project permit they have on the regulations, the respect the terms and conditions of the environmental permit by the PMs, partaking to the activities of the government by the Australian PMs’. However, they were not satisfied with the frequency and quality of communication with the PMs.
- **Project managers:** Project stakeholders are pleased with the level of interaction with the Australian project managers’, the PMs were satisfied working with a formal contract. Australian PMs were satisfied with their management approach.
- **Project owners:** The project owners are pleased with regard to the Australian PMs’ frequency of reports, the management of the stakeholders, the frequency and quality of communication with the PMs and the PMs participation to the project activities.
- **Project team member:** It is found that the project team members are satisfied working with formal, clear contract, the interaction with the PMs, the frequency of meetings, the quality of communication and the participation to the project activities of the Australian PMs.
- **Project sponsor:** The Australian project sponsors are satisfied with regard to the interaction with the PMs’, the management of community

by the PMs, the frequency and quality of communication, the relationship with the PMs and the quality of reports from the PMs.

The bullet points below shows how Australian PMs manage individual stakeholders in Africa.

The following set of points highlight the best management methods from the Australian PMs:

- Project governance structure
- PMs open to communicate with the stakeholders
- Weekly meeting to inform the project team members
- Monthly report to project sponsor
- Relationship between PM and project stakeholders
- Communities and government member being informed of the project activity
- Quality of communication with management team
- Clear contract
- Management partaking
- Formal report
- Formal feedback
- Frequency of interaction with stakeholders
- Feedback from stakeholders
- Key performance index
- Frequency and quality of training

8.2.3 How do Chinese PMs manage stakeholders in EPCM projects in Africa?

It was found that the Chinese have a good diplomatic negotiation with the African government and that they have an advantage when PMs manage project stakeholders, especially with the government. They build a long term relationship between African government and the EPCM Company, in

particular, through inter-government negotiations and bilateral interests. In addition, the Chinese PMs respect the government, local Company Laws and rules and respect their co-staff. Furthermore, it was revealed in the literature that Chinese companies sometimes get in to Africa through a Joint venture with an African company. This confirms that the Chinese are collective, long-term relationship-oriented and conservative. However, these definitions are not at the same level as it is in China.

The following bullet points summarise the findings presented in Chapter 6, Chinese PMs managing individual stakeholders in EPCM projects in Africa.

- **Community members:** It is found that the local community members are satisfied with the informal feedback received regarding the project. The economic impact the projects have to the community. There are not interaction and communication between Chinese PMs and the community
- **Contractors/suppliers:** The responses from the contractors are satisfactory with regards of the formal and clear contract with they have with the project, the level of informal interaction with the PMs, the frequency of communication about the project activities.
- **Government members:** It appears that the government members are satisfied with the Chinese PMs' complying with the respect of the terms of the permits.
- **Project manager:** the Chinese project managers' are satisfied working with a formal and clear contract, the feedback from the project sponsors, respecting all participants, Respect the company law and rules. Chinese PMs are very devoted to project delivery.
- **Project owners:** The Project Owners are satisfied with regards to the Chinese PMs' management approach.
- **Project team member:** It is found that the project team members are satisfied working with formal contract but, not satisfied with the Chinese PMs management approach.
- **Project sponsor:** The Chinese project sponsors are satisfied with regard to interaction with the PMs', frequency of communication,

attention on project delivery dateline and cost, corporate social responsibility.

The points below show how Chinese PMs manage individual stakeholders in Africa.

The study has defined the following Best management methods from the Chinese:

- Diplomatic relations between Chinese and African governments
- Respect for all participants
- Live together
- Respect the company law and rules
- Joint ventures between African and Chinese firms
- Build long-term relationship between African government and the company
- Focus on project delivery dateline and cost
- Clear contract
- Quality of communication with management team
- Formal report
- Corporate social responsibility
- Quality communication with stakeholders
- Key performance index
- Formal interaction with stakeholders

8.2.4 How can stakeholder management practice in EPCM projects in Africa be improved?

The stakeholder management practice can be improved by PMs following the follow steps drawn from the strengths of Chinese and Australian approaches:

EPCM project firms' country of origin has to have a good diplomatic relationship and negotiation with the host African countries' governments. This allows the EPCM projects to build long-term relationships between the African government and the company. Furthermore, the use of Accustom theory when it comes to individual stakeholders allows PMs to use the project management skills defined in Chapter 3, Section 3.2.1. The usage of the different skills must be in accordance with the group of stakeholders the PMs are dealing with.

The new approach of stakeholder management is appearing in response to changing PMs' roles. From a purely EPCM project perspective, it can be argued that one of the project manager's major roles is organizing and coordinating the relationship between stakeholders. Thus, the project management body of knowledge define a PM role as planning and controlling.

From the EPCM projects studied it was evident that the main project success factor is the project satisfaction of the stakeholders. This statement was confirmed with the first and the second hypothesis tests for which the management approach impacts and enhances the stakeholders' satisfaction, as well as the sensitivity of the project manager is positively correlated with the stakeholders' satisfaction. Note that the accustom management theory as developed in this study, mainly focuses on the project manager's sensitivity, involvement and partaking in the lives and activities of all groups in the project. This theory effectively fills the communication gap that was found between the Australian and the Chinese approaches where the high frequency of communication was of relatively low quality for the Australians and the low frequency of communication was of high quality for the Chinese.

The key to opposing or accepting an EPCM project was the perception of benefits. If there were no perceived benefits, stakeholders would oppose the project even if the perceived negative impacts could be viewed as low or reasonable. Thus, there were insufficient trade-offs between the negative impact and the perceived benefits. If no benefits can be presented, the

stakeholder management process will need to focus on minimising the potential damage that opposing stakeholders can bring the project. By acknowledging the concerns of stakeholders, a more active and open stakeholders management process can be achieved. In this way, a trade-off between benefits and negative impacts can be found and used to create an opportunity that reduces or eliminates potentially damaging conflicts with stakeholders. Even so, the aim should be to complete the project according to the requirements of the project owner. A clear challenge is then to find the trade-offs that satisfy as many stakeholder concerns as possible. A thorough stakeholder analysis should provide a basis for forthcoming project decisions.

8.3 Research's Contribution

Stakeholder management research is relatively new in EPCM projects. This research has significantly added to the existing body of knowledge in the domain of the stakeholder management by effectively linking stakeholder management theory with the stakeholder management practices. This provides a strong case for employing the new stakeholder management conceptual theory (Accustom theory) in order to make stakeholder management a regular phenomenon within the EPCM project firms. The newly develop stakeholder management framework contributes to this and was initially developed through the literature review of Chinese and Australian projects and project construction management validated model that exhibits the effect of PM on managing the stakeholder ecology.

This newly developed framework provides a useful means of managing stakeholders and explaining to the PMs how to operate in a different environment.

This effect was confirmed, while undertaking the research, by research Participants who indicated, on numerous occasions, that the PM

communicating and partaking in community activities was extremely instrumental to the community satisfaction.

The research has identified in a practical way how the PMs can manage the different group of stakeholders.

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The research has revealed that stakeholders should be effectively integrated in the organisation management processes to improve project success.

The research has endeavoured to bridge an identified gap in the EPCM project management, particularly in the stakeholder management by studying Australian and Chinese project management in EPCM projects in Africa. This investigation recommends the PMs in ECPM projects in Africa needs to effectively manage the use of a formal and informal management approach to deal with project stakeholders.

A PhD thesis is required to demonstrate a comprehensive knowledge of research methodologies and selection of an appropriate approach for PhD research design. From a purely academic point of view, this research has added value by making use of a combination of field observations and questionnaires survey techniques as the method for this study by developing the framework inductively, to observe and question intensively where necessary, and to be systematic. Multi-method research approaches (observation, survey, and so on) are becoming increasingly popular in construction research and this research extends the experience of using these techniques by incorporating two research methods qualitative with quantitative research methods that are well proven in other fields and have been successfully used for many years. This has laid a platform for other multi-method researchers in the built environment discipline.

8.4 Recommendations

As a result of conducting this research, the following recommendations can be made:

Engineering Procurement and Construction Management organisations should view a PM role as organizing and coordinating the relationship between stakeholders. The new stakeholder management framework presented in this thesis provides a robust rationale and tool for EPCM project manager managing projects to start adopting the new approach.

EPCM project managers' roles can be considered different to the traditional project managers' roles which is mainly planning and controlling. EPCM project managers carry additional roles in organising and controlling the relationship between stakeholders.

8.5 Recommendations for Future Research

Undertaking this research has opened an avenue for further research initiative which is presented below:

- During this research it became evident that the researcher did not thoroughly explore the challenges to collaboration or the obstacles involved and how competing interests are overcome. The reason for the latter is that these issues constitute an important part of the research objectives as the intention is to go through the ups and down of the collaboration between the project manager and the stakeholders with regards to the management approach, in order to identify the weaknesses of these approaches and mainly to propose an alternative and efficient management approach.
- Can the model be used as the foundation of the measurement of EPCM project success? An instrument can be developed to measure the level of satisfaction of stakeholders to improve their management.

8.6 Summary

This chapter provides a summary of research findings and put these together to answer the research questions identified in Chapter 1. Stakeholder management links with stakeholders' satisfaction and EPCM project success.

Firstly, by developing a new stakeholder management framework based on the basic postulation that project managers are responsible to manager stakeholder. Next, the strong correlation was found between the frequency and the quality of communication with the level of stakeholder's satisfaction. Furthermore, there was also a significant correlation found between the communication and empathy from the PMs diverse stakeholder expectations with the level of participation of the stakeholders in the project. Thus, the stakeholder management framework developed in this research aims to enhance stakeholder satisfaction. Finally, this stakeholder satisfaction can be linked with the project success.

Secondly by providing a tool (the developed framework) EPCM project managers manage project stakeholders in relatively large EPCM projects to deliver projects with higher likelihood of success. This output is only possible when project managers also perceive their role as organizing and coordinating the relationship between stakeholders. Thus the new framework has been put forward as path to achieving stakeholder satisfaction, by developing a new stakeholder management framework by combining the best practice from Chinese and Australian management approaches.

This chapter has also discussed the contribution of the research from an academic and practice point of view. The chapter also presents an argument that techniques (how PMs manage project stakeholders) developed in this thesis enhance the body of knowledge in the area of stakeholder management and provides a convincing case for the EPCM projects to start considering the implementation of stakeholder management. In section 8.2, the specific requirements of a PhD thesis, together with a summary of

contributions made by this thesis were presented. Finally, this chapter has presented recommendations that have arisen from this thesis and also shows future direction of research emanating from this research.

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Appendix A

Project Manager

As a project manager, do you think that the level of interaction with stakeholders is enough?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a project manager, do you think that the involvement of stakeholders in the project is enough?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a project manager, what do you consider as your primary responsibilities?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a project manager, how do you identify stakeholders?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a project manager, how do you prioritise stakeholders in the project?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a project manager, how do you engage with the stakeholders?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a project manager, how do you communicate with stakeholders?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a project manager, what are your expectations from stakeholders?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a project manager, do you take part in the community activities?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a project manager, do you have written contract with all stakeholders doing work for the project?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a project manager, how do you evaluate the success of the project?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Project Owner

As the Project Owner, do you think that the level of interaction with project manager enough?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As the Project Owner, do you think that your interaction with stakeholders in the project is enough?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As the Project Owner, how is your relationship with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As the Project Owner, how is your communication with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As the Project Owner, how is your knowledge about the project stakeholders?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As the Project Owner, how do you communicate with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As the Project Owner, are you satisfied with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Project Sponsor

As the Project Sponsor, what is your level of interaction with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As the Project Sponsor, how do you interaction with the stakeholders in the project?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As the Project Sponsor, what is your relationship with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As the Project Sponsor, what is your communication level with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As the Project Sponsor, how is your knowledge about the project stakeholders?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As the Project Sponsor, how do you communicate with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As the Project Sponsor, are you satisfied with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Project Team Members

As a project team member, what is your level of interaction with project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a project team member, how is your interaction with stakeholders in the project?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Project team member, how is your relationship with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Project team member, how is your communication with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Project team member, how is your knowledge about the project stakeholders?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Project team member, how do you communicate with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Project team member, are you satisfied with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Government Members

As a government member, what is your relationship with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a government member, how do you communicate with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a government member, are you satisfied with the project manager leadership?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a government member, are you informed about the project?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a government member, would you like to be informed about the project?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Community

As a community member what do you think about the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a community member, how do you communicate with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a community member, what is your communicate level with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

How satisfied are you with the project manager leadership as community member:

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a community member, are you informed about the project?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Suppliers

What is your relationship with the project manager as a supplier?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Supplier, do you communicate with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Supplier, how do you communicate with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Supplier, are you satisfied with the project manager leadership?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Supplier, are you informed about the project?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Supplier, would you like to be informed about the project?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Contractor

What is your relationship with the project manager as a Contractor?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Contractor, what are you communicating level with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Contractor, how do you communicate with the project manager?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Contractor, are you satisfied with the project manager leadership?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Contractor, are you informed about the project?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

As a Contractor, would you like to be informed about the project?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Appendix B

Project owner

Code	As Project owner,	strongly disagree	disagree	neutral	agree	strongly disagree
FA1	I think that the company uses a formal approach when it comes to stakeholder management					
FA2	I think that the company has a Corporate Social Responsibility and Ethic policy					
FA3	I think that the PM achieves the company vision (Corporate Social Responsibility and Ethic) on the project					
FA4	I think that the PM usually keeps me informed formally about the management of stakeholders					
FA5	I think that the formal project report or brief the PM provide to me include stakeholder management issues					
FA6	I think that the formal project report or brief regarding stakeholder management is up to date					
FA7	I think that the formal project report or brief regarding stakeholder management is comprehensive and detailed					
FA8	I think that the formal project report or brief regarding stakeholder management is not detailed					
FA9	I think that I provide a formal feedback to the project (report, email) regarding the project stakeholder management issues:					
FA10	I think that the frequency of the feedback with the PM is often:					
FA11	I think that the satisfactory management of the Ministry of infrastructure is a formal part of the PM's Key Performance index (KPI) and contract					
FA12	I think that the satisfactory management of the project team members is a formal part of the PM's Key Performance index (KPI) and contract					
FA13	I think that the satisfactory management of the contractors is a formal part of the PM's Key Performance index (KPI) and contract					

FA14	I think that the satisfactory management of the suppliers is a formal part of the PM's Key Performance index (KPI) and contract					
FA15	I think that the satisfactory management of the local community is formally part of the PM's Key Performance index (KPI) and contract					
IA1	I think that the company uses an informal approach when it comes to stakeholder management					
IA2	I think that the PM usually keeps me informed informally about the management of stakeholders					
IA3	I think that I provide an informal feedback to the project (discussion, telephone) regarding the project stakeholder management issues:					
IA4	I think that the satisfactory management of the government is an informal part of the PM's Key Performance index (KPI) and contract					
IA5	I think that the satisfactory management of the project team members is an informal part of the PM's Key Performance index (KPI) and contract					
IA6	I think that the satisfactory management of the contractors is an informal part of the PM's Key Performance index (KPI) and contract					
IA7	I think that the satisfactory management of the suppliers is an informal part of the PM's Key Performance index (KPI) and contract					
IA8	I think that the satisfactory management of the local community is an informal part of the PM's Key Performance index (KPI) and contract					
PSA1	I have confidence in the PM leadership in stakeholder management					
PSA2	I think that the frequency the PM participation to activities is often:					
PSA3	I am satisfied working with the PM					
FC1	I think that the frequency of the formal project report or brief is often					
FC2	I am satisfied with the frequency of the formal communication about the project activities.					
FC3	I am satisfied with the frequency of the informal communication about the project activities.					

QC1	I am satisfied with the quality of communication about the project activities.					

Appendix

Project sponsor

Code	As Project sponsor,	strongly disagree	disagree	neutral	agree	strongly disagree
FA1	I think that the company uses a formal approach when it comes to stakeholder management					
FA2	I think that the company has a Corporate Social Responsibility and Ethic policy					
FA3	I think that the PM achieves the company vision (Corporate Social Responsibility and Ethic) on the project					
FA4	I think that the PM usually keeps me informed formally about the management of stakeholders					
FA5	I think that the formal project report or brief the PM provide to me include stakeholder management issues					
FA6	I think that the formal project report or brief regarding stakeholder management is up to date					
FA7	I think that the formal project report or brief regarding stakeholder management is comprehensive and detailed					
FA8	I think that the formal project report or brief regarding stakeholder management is not detailed					
FA9	I think that I provide a formal feedback to the project (report, email) regarding the project stakeholder management issues:					
FA10	I think that the frequency of the feedback with the PM is often:					
FA11	I think that the satisfactory management of the Ministry of infrastructure is a formal part of the PM's Key Performance index (KPI) and contract					
FA12	I think that the satisfactory management of the project team members is a formal part of the PM's Key Performance index (KPI) and contract					

FA13	I think that the satisfactory management of the contractors is a formal part of the PM's Key Performance index (KPI) and contract					
FA14	I think that the satisfactory management of the suppliers is a formal part of the PM's Key Performance index (KPI) and contract					
FA15	I think that the satisfactory management of the local community is formally part of the PM's Key Performance index (KPI) and contract					
IA1	I think that the company uses an informal approach when it comes to stakeholder management					
IA2	I think that the PM usually keeps me informed informally about the management of stakeholders					
IA3	I think that I provide an informal feedback to the project (discussion, telephone) regarding the project stakeholder management issues:					
IA4	I think that the satisfactory management of the government is an informal part of the PM's Key Performance index (KPI) and contract					
IA5	I think that the satisfactory management of the project team members is an informal part of the PM's Key Performance index (KPI) and contract					
IA6	I think that the satisfactory management of the contractors is an informal part of the PM's Key Performance index (KPI) and contract					
IA7	I think that the satisfactory management of the suppliers is an informal part of the PM's Key Performance index (KPI) and contract					
IA8	I think that the satisfactory management of the local community is an informal part of the PM's Key Performance index (KPI) and contract					
PSA1	I have confidence in the PM leadership in stakeholder management					
PSA2	I think that the frequency the PM participation to activities is often:					
PSA3	I am satisfied working with the PM					
FC1	I think that the frequency of the formal project report or brief is often					
FC2	I am satisfied with the frequency of the formal communication about the project activities.					

FC3	I am satisfied with the frequency of the informal communication about the project activities.					
QC1	I am satisfied with the quality of communication about the project activities.					

Appendix

Project manager

Code	As Project Manager,	strongly disagree	disagree	neutral	agree	strongly disagree
FA1	It is formally required in my contract to manage the expectation of the project owner					
FA2	It is formally required in my contract to manage the expectation of the project sponsor					
FA3	It is formally required in my contract to manage the expectation of the project team members					
FA4	It is formally required in my contract to manage the expectation of the contractors					
FA5	It is formally required in my contract to manage the expectation of the suppliers					
FA6	It is formally required in my contract to manage the expectation of the government members					
FA7	It is formally required in my contract to manage the expectation of the local community					
FA8	I think that the company have the Corporate Social Responsibility and Ethic					
FA9	I think that I achieve the company vision (Corporate Social Responsibility and Ethic)on the project vision					
FA10	I think that I keep the project stakeholders informed about the management the project					
FA11	I think that I have a formal feedback from the project owner (report, email):					
FA12	I think that I have a formal feedback from the project sponsor (report, email):					
FA13	I think that I have a formal feedback from the project team members (note, email):					
FA14	I think that I have a formal feedback from the suppliers/contractors (letter, note, email):					

FA15	I think that I have a formal feedback from the community (letter, note, email):					
FA16	I think that the frequency of the formal communication (meetings, emails) with the project owner is often:					
FA17	I think that the frequency of the formal communication (meetings, emails) with the project sponsor is often:					
FA18	I think that the frequency of the formal communication (meetings, emails) with the project team members is often:					
FA19	I think that the frequency of the formal communication (meetings, emails) with the contractors is often:					
FA20	I think that the frequency of the formal communication (meetings, emails) with the supplier is often:					
FA21	I think that the frequency of the formal communication (meetings, emails) with the government members is often:					
FA22	I think that the frequency of the formal communication (meetings, emails) with the community members is often:					
AI1	It is informally required to manage the expectation of the project owner					
AI2	It is informally required to manage the expectation of the project sponsor					
AI3	It is informally required to manage the expectation of the project team members					
AI4	It is informally required to manage the expectation of the contractors					
AI5	It is informally required to manage the expectation of the suppliers					
AI6	It is informally required to manage the expectation of the government members					
AI7	It is informally required to manage the expectation of the community members					
AI8	I think that I have an informal feedback from the project owner (discussion):					
AI9	I think that I have an informal feedback from the project sponsor (discussion):					
AI10	I think that I have an informal feedback from the project team members (discussion):					
AI11	I think that I have an informal feedback from the suppliers/contractors (discussion):					
AI12	I think that I have an informal feedback from the community (discussion):					

AI13	I think that the frequency of the informal communication (discussion, telephone) with the project owner is often:					
AI14	I think that the frequency of the informal communication (discussion, telephone) with the project sponsor is often:					
AI15	I think that the frequency of the informal communication (discussion, telephone) with the project team members is often:					
AI16	I think that the frequency of the informal communication (discussion, telephone) with the contractors is often:					
AI17	I think that the frequency of the informal communication (discussion, telephone) with the supplier is often:					
AI18	I think that the frequency of the informal communication (discussion, telephone) with the government members is often:					
AI19	I think that the frequency of the informal communication (discussion, telephone) with the community members is often:					
PSA1	There is a friendly feeling between the stakeholders and me					
PSA2	I think that the project stakeholders are satisfied working with me					
PSA3	I participate to stakeholders' activities					
FC1	I think that the project owner is satisfied with the frequency of the formal communication (Reports, meetings, etc) with me.					
FC2	I think that the project owner is satisfied with the frequency of the informal communication (oral discussions, telephone, etc) with me.					
FC3	I think that the project sponsor is satisfied with the frequency of the formal communication (Reports, meetings, etc) with me.					
FC4	I think that the project sponsor is satisfied with the frequency of the informal communication (oral discussions, telephone, etc) with me.					
FC5	I am satisfied with the frequency of the feedback from the project sponsor.					
FC6	I am satisfied with the frequency of the feedback from the project team members.					
FC7	I am satisfied with the frequency of the feedback from the contractors.					
FC8	I am satisfied with the frequency of the feedback from the suppliers.					

FC9	I am satisfied with the frequency of the feedback from the project community members.					
QC1	I think that the project owner is satisfied with the quality of communication with me.					
QC2	I think that the project sponsor is satisfied with the quality of communication with me.					
QC3	I am satisfied with the quality of the feedback from all the stakeholders.					

Appendix

Project team member

Code	As project team member,	strongly disagree	disagree	neutral	agree	strongly disagree
FA1	I have a formal and clear contract with the project					
FA2	I think that the level of formal interaction (meetings, emails) with the PM is effective:					
FA3	I think that the level of formal interaction with other stakeholders is effective:					
FA4	I think that the quality of formal interaction with the PM is effective:					
FA5	I am satisfied working with a terms and condition of my formal contract					
AI1	I have an informal contract with the project.					
AI2	I think that the level of informal interaction (Chatting during lunch or after work) with the PM is effective					
AI3	I think that the level of informal interaction with other stakeholders is effective					
AI4	I think that the quality of informal interaction with the PM is effective:					
AI5	I am satisfied working with an informal contract					
PSA1	I am satisfied with the PM leadership in team member management					
PSA2	I am satisfied with the PM partaking to the project activities					
PSA3	There is a friendly feeling between PM and project team members					
PSA4	I am satisfied with the work environment					
PSA5	I am satisfied with the training I received here					
FC1	I am satisfied with the frequency of communication about the project activities.					

QC-1	I think that there is a lot of wasted time here due to poor communication					
QC2	I am satisfied with the quality of communication about the project activities.					

Appendix

Government member

Code	As a government officer	strongly disagree	disagree	neutral	agree	strongly disagree
FA1	I think that the terms and conditions of project permit is detailed and comprehensive					
FA2	I think that the terms and conditions of project permit cover the environmental expectation of the local community members					
FA3	I think that the terms and conditions of project permit cover the social expectation (e.g job opportunities) of the local community members					
FA4	I think that the terms and conditions of project permit cover the economic expectation (e.g improving local economic) of the local community members					
FA5	I think that the company respects the terms and conditions of their environmental permit					
FA6	I think that the level of formal interaction (meetings, emails) with the PM is often:					
FA7	I think that the quality of formal interaction with the PM is effective:					
FA8	I frequently receive complaints from local community members regarding the project					
AI1	I think that the level of informal interaction (discussion, telephone, etc) with the PM is often:					
AI2	I think that the quality of informal interaction with the PM is effective:					
PSA1	I have confidence in the PM leadership in stakeholder management					

PSA2	I am satisfied with the PM partaking to the activities of the government					
FC1	I am satisfied with the frequency of the formal communication about the project activities.					
FC2	I am satisfied with the frequency of the informal communication about the project activities.					
QC1	I am satisfied with the quality of communication about the project activities.					

Appendix

Supplier

Code	As project supplier,	strongly disagree	disagree	neutral	agree	strongly disagree
FA1	I have a formal and clear contract with the project					
FA2	I think that the level of formal interaction (meetings, emails) with the PM is effective:					
FA3	I think that the level of formal interaction with other stakeholders is often:					
FA4	I think that the quality of formal interaction with the PM is effective:					
FA5	I am satisfied working with a terms and condition of my formal contract					
AI1	I have an informal contract with the project.					
AI2	I think that the level of informal interaction (chatting face to face, phone) with the PM is often					
AI3	I think that the level of informal interaction with other stakeholders is often					
AI4	I think that the quality of informal interaction with the PM is effective:					
AI5	I am satisfied working with an informal contract					
PSA1	I am satisfied with the PM leadership					
PSA2	There is a friendly feeling between PM and project team members					

PSA3	I am satisfied with the work environment					
FC1	I think that there is a lot of wasted time here due to poor communication					
FC2	I am satisfied with the frequency of communication about the project activities.					
QC1	I am satisfied with the quality of communication about the project activities.					

Appendix

Contractor

Code	As Contractor,	strongly disagree	disagree	neutral	agree	strongly disagree
FA1	I have a formal and clear contract with the project					
FA2	I think that the level of formal interaction (meetings, emails) with the PM is effective:					
FA3	I think that the level of formal interaction with other stakeholders is often:					
FA4	I think that the quality of formal interaction with the PM is effective:					
FA5	I am satisfied working with a terms and condition of my formal contract					
AI1	I have an informal contract with the project.					
AI2	I think that the level of informal interaction (chatting face to face, phone) with the PM is often					
AI3	I think that the level of informal interaction with other stakeholders is often					
AI4	I think that the quality of informal interaction with the PM is effective:					
AI5	I am satisfied working with an informal contract					
PSA1	I am satisfied with the PM leadership					
PSA2	There is a friendly feeling between PM and project team members					
PSA3	I am satisfied with the work environment					
FC1	I think that there is a lot of wasted time here due to poor					

	communication					
FC2	I am satisfied with the frequency of communication about the project activities.					
QC1	I am satisfied with the quality of communication about the project activities.					

Appendix

Community member

Code	As Community member,	strongly disagree	disagree	neutral	agree	strongly disagree
FA1	I think that the project had impacted the community economically by providing the job to the people					
FA2	I think that the PM manages the environment degradation the project cause (i.e. noise, dust, logging) effectively.					
FA3	I think that the PM usually keeps us informed about the management of stakeholders					
FA4	I think that the frequency of the formal project report or brief is often					
FA5	I think that the quality of the formal project report or brief is					
FA6	I think that I have a formal feedback to the project (letters, emails):					
FA7	I think that the frequency of the meeting with the PM is often:					
FA8	I am satisfied with the infrastructure upgrade					
AI1	I think that I have an informal feedback to the project (discussions, telephones):					
PSA1	I am satisfied the work of the PM in regard of the community					
PSA2	There is a friendly feeling between PM and the community					
PSA3	The PM usually keeps us informed about things we want to know					

FC1	I am satisfied with the frequency of communication about the project activities.					
FC2	I think that I have a formal feedback from the project.					
QC1	I am satisfied with the quality of communication about the project activities.					

Validation of the framework

This is a good research subject and you have set up the framework comprehensively. However, you will need to address ethical issues around the informal processes especially with regard to hiring of labour and contractors. The informal processes may be useful when dealing with non-contractual stakeholder issues. You will need to address how this framework will ensure that bribery and corruption are not perpetuated in the process.

You will also need to address the skills gap in Africa and how this impact on project delivery. How will the new framework ensure skills and technology transfer? I see you have touched on this.